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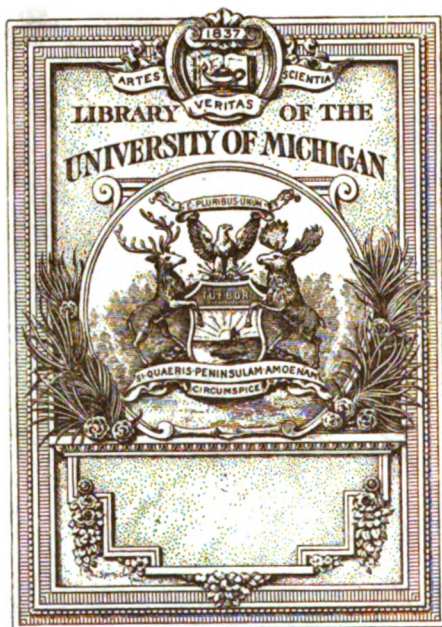
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THE GIFT OF
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STATE OF MICHIGAN. *Dairy & Food*
= *Commission*

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1912



STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING

GILMAN M. DAME,	- - - - -	COMMISSIONER
JAMES W. HELME,	- - - - -	DEPUTY COMMISSIONER
FERN L. SHANNON,	- - - - -	STATE ANALYST
M. J. SMITH,	- - - - -	CHIEF CLERK

INSPECTIONS.

The following places were visited by the Department's inspection force during the months of May and June, 1912.

Abbottsford, Addison, Adrian, Akron, Albion, Alden, Algonac, Alma, Alpena, Amasa, Ann Arbor, Applegate, Armada, Ashley, Atkins, Augusta, Avoca, Bad Axe, Baldwin, Bancroft, Bangor, Baraga, Battle Creek, Bay City, Bay Port, Belding, Bellaire, Belleville, Bellevue, Benton Harbor, Berrien Springs, Bessemer, Beulah, Big Rapids, Birch Run, Blanchard, Bloomington, Boyne City, Breckenridge, Brent Creek, Bridgeport, Brighton, Broomfield, Brown City, Bruce Crossing, Buchanan, Buckley, Byron, Cadillac, Caldwell, Calumet, Caro, Carrolton, Carson, Carsonville, Casco, Cass City, Cassopolis, Cedar Springs, Central Lake, Channing, Charlevoix, Chassell, Cheboygan, Chelsea, Clare, Clifford, Climax, Clio, Cohoctah, Coloma, Coopersville, Copemish, Crawford, Crosswell, Crystal Falls, Davis, Decatur, Deckerville, Deerfield, Detroit, Dowagiac, Downington, Dundee, Durand, Eagle River, East Jordan, Edmore, Ellsworth, Ewen, Fairgrove, Farmington, Fenton, Flint, Fowlerville, Frankenlust, Frankenmuth, Frankfort, Fruit Ridge, Galesburg, Galien, Gay, Geva, Gladwin, Glengary, Grand Haven, Grand Junction, Grand Ledge, Grand Rapids, Grass Lake, Grayling, Greenville, Hadley, Hancock, Hanover, Harbor Beach, Harrison, Hartford, Hemlock, Hillman, Hillsdale, Holland, Holloway, Holt, Howard City, Howell, Hubbard Lake, Hudson, Imlay City, Ionia, Iron Mountain, Iron River, Ironwood, Ithaca, Jackson, Jasper, Jennings, Jesseville, Kalamazoo, Kaleva, Kalkaska, Kenton, Keweenaw Bay, Laingsburg, Lake City, Lake Linden, Lansing, Lapeer, Laurium, Laurence, Lawton, Lenox, Lennon, LeRoy, Leslie, Loretta, Lowell, Ludington, Lum, Mackinaw City, Manistee, Manton, Marcellus, Marine City, Marlette, Marquette, Marshall, Mason, Mayville, McBain, McGregor, Meridian, Merrill, Mesick, Metamora, Metz, Middleton, Midland, Milan, Milford, Millersburg, Millington, Minden City, Monroe, Montrose, Morenci, Morrice, Mt. Clemens, Mt. Pleasant, Munnith, Munson, Muskegon, New Baltimore, New Haven, Newport, Niles, North Branch, Northville, Norway, Oak Grove, Okemos, Olivet, Onaway, Ontonagon, Orion, Owendale, Owosso, Palatka, Palmo, Parma, Marshallville, Paw Paw, Paynesville, Perry, Petoskey, Pewamo, Pigeon, Pinconning, Plymouth, Phoenix, Pontiac, Port Austin, Port Huron, Portland, Portsmouth, Posen, Quanicasee, Rapid City, Reed City, Republic, Richmond, Ridgeway, Rives Junction, Rochester, Rockland, Rogers City, Romeo, Royal Oak, Roscommon, Roseburg, Rosebush, Ruth, Saginaw, Salem, Sandusky, Schoolcraft, Scottville, Shabbona, Shepherd, Sidnaw, Skanee, South Boardman, South Haven, Standish, Stanton, St. Clair, St. Joseph, St. Louis, Stockbridge, Stoney Creek, Sturgis, Swartz Creek, Thompsonville, Three Oaks, Tower, Traverse City, Trout Creek, Tustin, Uby, Unionville, Utica,

Vassar, Victoria, Vreesland, Vulcan, Wakefield, Waldron, Walton, Watervliet, Webberville, West Branch, Weston, Wexford, White Pigeon, Whittaker, Williamston, Willis, Winn, Winona, Yale, Ypsilanti, Zeeland, Zilwaukee.

INSPECTION OF WEIGHTS AND MEASURES.

JAMES W. HELME.

I would recommend that an efficient state law be passed relative to weights and measures. The food inspectors of this department could with very little additional trouble, inspect the weights and measures of all places visited by them. The present state law on this subject, passed over fifty years ago, is obsolete and useless because it is made the duty of no official to enforce the same.

MISLEADING ADVERTISING.

Several prosecutions have been started for the deceptive advertising of oleo with butter which is prohibited by law. In our investigations of these cases the fact was brought to the attention of this department that other food stuffs, notably coffee, cereals, are being advertised deceptively as coffee. I would recommend legislation prohibiting deceptive advertising in newspapers or elsewhere of all kinds of food stuffs.

HOMOGENIZER.

During the year a new dairy apparatus has come into use known as the homogenizer. In this machine, by means of heavy pressure, skim milk and butter fat can be mixed and by forcing the same through the machine an emulsification of the fat and milk takes place and an artificial milk or cream can be produced that will stand a legal test for fat solids. We have reason to believe that some users of this machine have incorporated packing-stock butter and perhaps oleo and other cheap fats with skim milk to make a "cream" for producing ice cream. There are also reasons for believing that at some places skim milk and cheap fats are being run through this machine for the purpose of making a "milk," which is used in cheese making. These machines are expensive, costing one thousand dollars and upwards, and so are available only to the large manufacturers. By cheapening the cost of materials the large manufacturer thus has an unfair and dishonest advantage of his smaller competitor who uses legitimate products. I would recommend that the use of this machine be prohibited or at least that the product should be distinctively labeled as "homogenized" so as to protect the consumer.

THE DETECTION OF FORMIC ACID IN FRUIT PRODUCTS.

BY F. L. SHANNON.

In Bulletin No. 195, of the Dairy and Food Department of the State of Michigan, the author called attention to the fact that formic acid was being used in this country as a preservative of fruit products.

It has been the general belief among chemists, for some time, that some preservatives other than the ones ordinarily found were being used in the preservation of fruit products and investigations have been made in various laboratories throughout the country for the purpose of determining the identity of the substance used. Owing to its use in Germany, a number have suspected formic acid and have built up their investigations with that substance in mind, but because of the unsatisfactory and indirect methods of identification and further owing to the fact that many substances respond to these indirect methods, it has been difficult to reach a positive conclusion.

A search of the literature on the subject revealed the fact that the detection of formic acid did not depend upon its isolation and subsequent identification, but mainly upon the indirect method of its reducing power, principally upon Silver Nitrate and Mercuric Chloride Solution. For example, the older literature states that formic acid is a constant constituent of many plant and animal products, a statement based on the fact that when they are subjected to steam distillation some substance is obtained in the distillate which reduces Silver Nitrate and Mercuric Chloride Solution. However, in view of recent investigations along this line, it seems that this whole subject of the natural occurrence of formic acid needs further study, as it has been found possible to subject a host of substances which were known to contain no formic acid, to steam distillation and obtain a distillate which gave a pronounced reduction with both Silver Nitrate and Mercuric Chloride Solution. From none of these substances however has it been possible to isolate and identify formic acid as such. Therefore, it is evident that we are not justified in designating as formic acid every substance obtained by steam distillation which reduces Silver Nitrate and Mercuric Chloride Solution. It was found, for example, that when phosphoric acid was subjected to distillation the distillate possessed the reducing properties generally ascribed to formic acid. Furthermore, in a number of methods in which the formic acid recovered by steam distillation is neutralized using phenolphthalein as indicator, the indicator itself was found to have a reducing action on Mercuric Chloride.

One of the most satisfactory indirect methods for the detection of formic acid is based on its reduction to formaldehyde by means of magnesium and dilute sulphuric acid. Fenton has shown that carbonic acid may be reduced in the same way, but Bacon has called attention to the fact that this is of theoretical importance only, there being no danger of confusing the two in practice. However every step in this method must be carried out with absolute precision, or erroneous conclusions may be drawn.

The qualitative method as applied to the products used in this investigation is as follows: To about 200-500 cc. of the syrup or crushed fruit in a two litre, long necked, round bottom flask provided with a Reitmeier bulb, add about 50-100 cc. of water. Subject to steam distillation, collecting the distillate usually about 2500 cc. until it ceases to give an acid reaction with litmus. Exactly neutralize the distillate with N/1 NaOH using litmus as an indicator. Evaporate on a steam or water bath to about 50 cc., transferring from the large evaporating dish to smaller ones as the volume decreases. Transfer to an Erlenmeyer Flask, provided with a glass tube about three feet long as an air condenser, add a few pieces of pure magnesium ribbon or wire and a slight excess of dilute sulphuric acid and set in a cool place for one hour, adding dilute sulphuric acid through the tube from time to time as the reaction ceases. Transfer the liquid to a suitable distilling flask and collect the first ten cc. of the distillate, which will contain most of the formaldehyde, if the original syrup contained formic acid.

There are a number of methods published for the detection of formaldehyde and nearly every analyst has his favorite test. However, the methods which proved the most satisfactory in this work were, Leach's method,¹ Phloroglucinol method,² Rimini's method,³ and the Rescorcin method of the United States Pharmacopoeia. A positive reaction with these four tests was considered conclusive evidence of the presence of formaldehyde.

CRYSTALLOGRAPHIC IDENTIFICATION.

In as much as practically all methods for the detection of formic acid previously reported are indirect methods depending upon the decomposition of the formic acid or upon its reducing powers, it seemed desirable to attempt the isolation of formic acid in the form of an insoluble salt.

The usual procedure in determining the identity of an organic acid in plants, is to prepare some readily crystallizable salt, sparingly soluble in water. Of the various formates the lead salt crystallizes readily without water of crystallization, is very stable and requires 63 parts of water for solution. The formation and identification of lead formate would therefore constitute a direct and positive proof of the presence of formic acid. After numerous attempts the following procedure was adopted:

Steam distill about 1000-1200 cc. of the syrup as in the first operation, collecting the distillate (2500-3000 cc. in a receiving flask to which about 5 cc. of lead cream has been added. (This is made as follows: Precipitate a solution of lead nitrate with potassium or sodium hydrate in the presence of phenolphthalein until a faint pink color appears. Wash by decantation 8-10 times.) Shake the flask occasionally and as the lead hydrate is dissolved add a few cc. more, until all of the formic acid is combined. Concentrate the liquid in a large dish on a steam or water bath to about 50 cc. Filter and transfer to a suitable crystallizing dish and set aside in a desiccator. If formic acid was present in the original material needle like crystals of lead formate will form. Wash the crystals with absolute alcohol, to remove any lead acetate which may be present, spread on filter paper and dry. To the dry crystals apply the following tests:

¹ Bull. 107, page 185, U. S. Dept. Agri.

² Ibid.

³ Ibid.

(a) Aqueous solution will reduce Ag N03 upon warming.
 (b) Aqueous solution will reduce mercuric chloride solution upon warming.

(c) Aqueous solution will reduce platinum chloride upon warming.
 (d) To a portion of the crystals in a dry test tube add sulphuric acid and warm. Carbon monoxide is generated which will burn in the tube with a blue flame when ignited. Further note that the lead formate is not discolored.

(e) Transfer some of the crystals to a small distilling flask, treat with conc. phosphoric acid and distill. The distillate which is formic acid will react as follows:

1. Acid to litmus and acid taste.
2. Reduces silver nitrate on warming.
3. Reduces mercuric chloride on warming.
4. Reduces platinum chloride on warming.
5. Is reduced to formaldehyde by magnesium and dilute sulphuric acid.

As previously mentioned it was found that when phosphoric acid and water alone were distilled the distillate would reduce silver nitrate and mercuric chloride solution. Therefore, before test (e) was carried out the phosphoric acid was subjected to distillation until it no longer gave a distillate that would reduce silver nitrate or mercuric chloride. The crystals of the lead compound were then added and the distillation continued.

Although the chemical evidence that the volatile acid obtained from the fruit products used in this investigation is conclusive, it was thought desirable to submit the crystals to Dr. Edward H. Kraus, Professor of Geology and Mineralogy, University of Michigan, and he reports as follows:

"The crystals, which were examined crystallographically, were obtained by slow crystallization from an aqueous solution of the material furnished by Fern L. Shannon, State Analyst, Lansing, Michigan. They are prismatic in habit and about 2 to 3 mm. in length and of slightly yellowish color. All crystals were clear and transparent. Although the crystals were in general doubly terminated, readings were made only upon the faces of the prism zone, the end faces being extremely small and, hence, difficult of adjustment. The images obtained were very good considering the size of the crystals.

The measured angles, compared with the values given by Plathan, are as follows:

	Kraus.	Plathan.
m : m (110) : (110)	73° 26'	73° 28'
m : b (110) : (010)	53° 17½'	53° 16'

This comparison shows that the agreement in the values for this material and those given by Plathan¹ for lead formate are exceedingly close.

Parallel extinction was observed upon all the faces examined. The indices of refraction are higher than that of methylene iodide, as determined by the Becke and the Schroder van der Kolk methods.

¹Groth, *Chemische Krystallographie*, 1910, 3, 16.

The above crystallographic-optical properties, together with the fact that a distinct reaction for lead is easily obtained upon the plaster tablet with the blowpipe, indicates conclusively that the substance examined is lead formate."

To further substantiate the proof a number of fruit syrups that were known to contain no added formic acid were subjected to steam distillation and an attempt made to separate a lead compound. In some instances a few crystals were obtained, but at no time could the crystals give the characteristic tests for lead formate.

It would seem then that the formation of formaldehyde coupled with the formation of lead formate and their subsequent identification would furnish a conclusive and positive proof of the presence of formic acid.

The author desires to take this opportunity to thank Dr. Edward H. Kraus for his co-operation in this work.

Michigan Dairy and Food Department.

March 19, 1912.

DAIRY MEETINGS.

During the year sixty educational dairy meetings have been held in the state at the following places: Cadillac, Traverse City, Elk Rapids, East Jordan, Muskegon, Orleans, Lawrence, Lapeer, Shelby, Detroit, Kalamazoo, Imlay City, Port Huron, Alpena, Lake City, Millersburg, Onaway, Towar, Indian River, Wolverine, Vanderbilt, Gaylord, Frederick, Roscommon, St. Helens, West Branch, Alger, Sterling, Standish, Pinconning, Gladwin, Linwood, Kawkawlin, Fosters, Burt, Montrose, Flushing, Lennon, Carland, Elsie, Ashley, North Star, Ithaca, Traverse City, Alma, Forest Hill, Shepherd, Rosebush, Mount Pleasant, Clare, Farwell, Lake George, Temple, Marion, McBain, Boon, Harrietta, Mesick, Pomona and Copemish.

All were addressed by the Deputy Commissioner who reports a growing interest in intelligent and scientific dairy work throughout the state.

PROSECUTIONS.

Since beginning of fiscal year, July 1, 1911.

Cases pending May 1, 1912.....	3
Cases commenced since said date.....	12

CASES DISPOSED OF.

Before examining magistrate:	
Defendants bound over	5
Defendants discharged	2
In trial courts:	
Defendants convicted	6
Defendants acquitted	0
Cases pending July 1, 1912.....	7

In the case pending in justice court, city of Battle Creek, against Wirt W. Wickham, charged with selling adulterated meat, May 26, case dismissed.

Complaint was made May 7 in justice court, city of Lansing, against Wesley Craun, charged with selling adulterated milk. Defendant entered a plea of guilty, fined \$10 and costs.

Complaint was made May 8, in police court, city of Detroit, against Lafer Bros. charged with the illegal advertisement of oleomargarine. May 17 defendant bound over to recorder's court. Case pending.

Complaint was made May 14, in police court, city of Detroit, against the Imperial Tea Company charged with selling coffee compound, not

labeled. May 21 defendant waived examination and was bound over to the recorder's court. Case pending.

Complaint was made May 15, in municipal court, city of Pontiac, against the Gordon Vinegar Company, charged with selling adulterated vinegar. May 18 defendant entered a plea of guilty. Fined \$50.

Complaint was made May 20 in justice court, city of Charlotte, against O. P. Shuler, charged with selling spirits of nitre not in conformity with legal standard. Defendant entered a plea of guilty. Fined \$3.75 costs.

Complaint was made May 20, in justice court, city of Jackson, against Hyndman & Way, charged with selling spirits of nitre not in conformity with legal standard. Case dismissed.

Complaint was made May 28, in justice court, township of Bridgeport, county of Saginaw, against Alex. Blessing, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made June 5, in justice court, city of Flint, against Arthur J. Sly, charged with selling decomposed meat. June 6, defendant waived examination, bound over to circuit court for trial. Case pending.

Complaint was made June 5, in justice court, city of Flint, against Richard Buell, charged with selling Hamburg steak containing sulphites. June 6, defendant bound over to circuit court. June 7, defendant entered a plea of guilty. Sentenced to 30 days in jail.

Complaint was made June 17, in justice court, city of Paw Paw, against M. S. Carney, charged with selling Tr. iodine not in conformity with legal requirements. Case pending.

Complaint was made June 24, in justice court, village of Dundee, against Ellis Jacobs, charged with selling ice cream below the legal standard. Defendant entered a plea of guilty. Fined \$6.30 costs.

Complaint was made June 26, in police court, city of Grand Rapids, against Cornelius Pastoor, charged with using sulphites in the preparation of meat products. Examination waived. Case pending.

July 1, 1912.

Hon. G. M. Dame, State Dairy and Food Commissioner, Lansing, Mich.:
Dear Sir—I herewith submit my report on the work completed in the Department Laboratory during the months of May and June.

A total of 319 samples were examined. Two hundred fifty-seven of these included foods, beverages, linseed oil, etc., while sixty-two were drug products. Of the former 157 were found adulterated within the meaning of the statute, while 100 were passed as complying with the law. The large percentage of samples adulterated is due to the fact that of the 129 samples of milk examined 90 of them were classed as impure

for the reason that the most of them contained an excessive amount of visible dirt.

Of the 50 ice cream samples examined 21 were found to fall below the standard of 12% butter fat as required by the ice cream law.

LINSEED OIL.

In the last Bulletin issued by the Department attention was directed to the samples of linseed oils examined and special mention made of some of the companies doing business in the state. Permit me to direct your official attention to the samples of linseed oil examined during the months of May and June. Nineteen samples were submitted and eleven of them were found adulterated. The most flagrant adulteration was that of the Globe Refining Co., Cleveland, Ohio. You will note the two samples No. 24277 and No. 24306 manufactured by the above firm contained about 40% of an adulterant. Sample No. 24277 was taken from a container labeled "Commercial Boiled Linseed Oil," the word "Commercial" being in smaller type than the words "Boiled Linseed Oil." Sample No. 24306 was taken from a container bearing the label, "Raw Linseed Oil." "Not sold or intended for medicinal purposes." So for all intents and purposes these products were sold as pure. The only inference one could draw from labels such as these is that the product is not as highly refined as one that is used for medicinal purposes, but otherwise a pure article. This company, however, is not the only firm selling linseed oil illegally in this state, as the appended report will show.

DRUGS.

Sixty-two drug samples were examined, 37 of which were found not to comply with the provisions of the drug law. Some druggists, despite warnings and advice of the Department inspectors, fail to keep their preparations properly, especially is this true of spirits of nitre. Of the thirteen samples examined seven were found below the requirements of the United States Pharmacopoeia. From reports of the drug inspectors this condition seems to be due to the fact that the druggists do not keep this preparation as directed by the U. S. P. as it has been conclusively demonstrated time and again that spirits of nitre when kept under proper conditions will remain standard strength for a long time.

Very truly yours;

F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated or misbranded.	Found adulterated or misbranded.
Biscuit.....	1	1	0
Butter.....	4	1	3
Candy.....	2	2	0
Catsup.....	2	2	0
Coffee.....	2	1	1
Cream.....	1	1	0
Fruit Juices.....	2	2	0
Ice Cream.....	50	29	21
Ice cream cones.....	1	1	0
Linseed oil.....	19	8	11
Maple sugar.....	1	0	1
Meat.....	13	3	10
Milk.....	124	34	90
Mustard preparations.....	2	0	2
Peas.....	1	0	1
Pepper.....	1	0	1
Preserves.....	1	0	1
Preservatives.....	2	0	2
Soft drinks.....	15	9	6
Vinegar.....	13	6	7
Totals.....	257	100	157

DRUGS.

Article.	Total.	Not found adulterated or misbranded.	Found adulterated or misbranded.
Spirits Camphor.....	5	1	4
Spirits Nitre.....	13	6	7
Spirits Peppermint.....	6	3	3
Spirits Turpentine.....	3	3	0
Tincture Aconite.....	1	1	0
Tincture Ginger.....	1	1	0
Tincture Iodine.....	1	0	1
Tincture Iron.....	1	0	1
Tincture Opium.....	23	9	14
Proprietary Preparations.....	1	0	1
Fowlers Solution.....	5	1	4
Hydrogen Peroxide.....	2	0	2
Totals.....	62	25	37

ANALYSES OF SAMPLES.

BUTTER.

No. 24121, S-550. Sample of "Butter" taken from dining room of Hotel Walton, Olivet. Sample is oleomargarine. No oleomargarine sign displayed in dining room.

No. 24131, G-586. Sample of "Butter" procured from Wm. Wollner, Laurium. Product is a mixture of butter and oleomargarine.

No. 24478, G-610. Sample of "Butter" procured from Jos. Baur (Walker Hotel), Ironwood. Product is oleomargarine.

COFFEE COMPOUND.

No. 24034, S-548. Sample of "Coffee" sold by the Imperial Tea Co., Detroit, and procured from Paul Leo, Saginaw. Product is a mixture of coffee, chicory and cereal. Package had no label of any description. Misbranded.

No. 24096, I-1575. Sample of No. 5 Compound manufactured by the F. Widlar Co., Cleveland, Ohio, and procured from Davis & Metx, Albion. Sample is coffee compound misbranded.

ICE CREAM.

No. 24235, G-593. Sample of ice cream manufactured by Best Bros., Iron Mountain, and procured from Mrs. W. H. Tregilgas, Iron Mountain. Butter fat 11%. Below standard.

No. 24302, Z-371. Sample of ice cream manufactured by the Velvet Ice Cream Co., Adrian, and procured from A. A. Vedder, Whittaker. Butter fat 7.7%. Below standard.

No. 24308, Z-374. Sample of ice cream manufactured by the Velvet Ice Cream Co., Adrian, and procured from Fadell Bros., Milan. Butter fat 11.3%. Below standard.

No. 24309, Z-375. Sample of ice cream manufactured by Ellis Jacob, Dundee. Butter fat 4.8%. Below standard.

No. 24310, Z-376. Sample of ice cream manufactured and sold by Ellis Jacob, Dundee. Butter fat 4.7%. Below standard.

No. 24359, Z-378. Sample of ice cream manufactured and sold by Melonakis & Lecakos, Monroe. Butter fat 10%. Below standard.

No. 24360, Z-379. Sample of ice cream manufactured by the Velvet Ice Cream Co., Adrian, and procured from Fadell & Joseph, Monroe. Butter fat 11%. Below standard.

No. 24362, Z-381. Sample of ice cream manufactured by Hall Creamery, Toledo, Ohio, and procured from Abbie Knoble, Petersburg. Butter fat 9.8%. Below standard.

No. 24364, Z-383. Sample of ice cream manufactured by the Ohio Dairy Co., Toledo, Ohio, and procured from Mrs. Robert McCarty, Deerfield. Butter fat 7.5%. Below standard.

No. 24366, Z-385. Sample of ice cream manufactured by the Ohio Dairy Co., Toledo, Ohio, and procured from Mrs. H. Krefer, Deerfield. Butter fat 7.7%. Below standard.

No. 24370, Z-389. Sample of ice cream manufactured by Hall Creamery, Toledo, Ohio, and procured from S. A. Johnson, Blissfield. Butter fat 8.5%. Below standard.

No. 24372, Z-391. Sample of ice cream manufactured by the Ohio Dairy Co., Toledo, Ohio, and procured from H. H. Spencer, Morenci. Butter fat 3.8%. Below standard.

No. 24377, Z-396. Sample of ice cream manufactured and sold by B. J. Pulver, Tecumseh. Butter fat 11.2%. Below standard.

No. 24378, Z-397. Sample of ice cream manufactured and sold by H. K. Hay, Tecumseh. Butter fat 11.3%. Below standard.

No. 24379, Z-398. Sample of ice cream manufactured and sold by Hagans Drug Co., Monroe. Butter fat 10%. Below standard.

No. 24380, Z-399. Sample of ice cream manufactured and sold by Ellis Jacobs, Dundee. Butter fat 5.8%. Below standard.

No. 24510, W-38. Sample of ice cream manufactured by the Cottage Ice Cream Co., Lansing. Butter fat 10.2%. Below standard.

No. 24525, W-46. Sample of ice cream manufactured by C. A. Connor, Owosso. Butter fat 9.2%. Below standard.

No. 24564, G-618. Sample of ice cream manufactured by Bridgeman-Russell, Hancock, and procured from J. E. McAllister, Hancock. Butter fat 11%. Below standard.

No. 24579, P-405. Sample of ice cream manufactured and sold by F. F. Smith & Son, Watervliet. Butter fat 9.6%. Below standard.

No. 24611, Z-377. Sample of ice cream manufactured and sold by Christ Brown, Dundee. Butter fat 11.3%. Below standard.

LINSEED OIL.

No. 23392, I-1463. Sample of American brand Linseed Oil manufactured by the American Linseed Oil Co., Cleveland, Ohio, and procured from Thompson Bros., Scotts. Does not comply with the standard for linseed oil.

No. 24006, S-547. Sample of Raw Linseed Oil manufactured by the Southern States Turpentine Co., Cleveland, Ohio, handled by the Fletcher Hardware Co., Detroit, as jobbers. Sample is adulterated. Contains 5-6% of petroleum product.

No. 24128, S-551. Sample of Raw Linseed Oil manufactured by the American Linseed Oil Co., Cleveland, Ohio, and procured from the store of J. H. Sours, Olivet. Does not comply with standard for linseed oil.

No. 24230, S-558. Sample of Boiled Linseed Oil manufactured by National Linseed Co., Cleveland, Ohio, and procured from the store of J. L. Sibley & Co., Pontiac. Sample is adulterated. Contains about 6-7% of a petroleum product.

No. 24231, S-559. Sample of Boiled Linseed Oil manufactured by the National Linseed Co., Cleveland, Ohio, and procured from J. L. Sibley Co., Pontiac. Sample is adulterated. Contains about 5-8% of a petroleum product.

No. 24232, S-560. Sample of Raw Linseed Oil manufactured by the National Linseed Co., Cleveland, Ohio, and procured from J. L. Sibley Co., Pontiac. Sample is adulterated. Contains about 12-15% of a petroleum product.

No. 24233, S-561. Sample of Raw Linseed Oil manufactured by the

National Linseed Co., Cleveland, Ohio, and procured from the J. L. Sibley Co., Pontiac. Sample is adulterated. Contains about 17-18% of a petroleum product.

No. 24270, U-306. Sample of Raw Linseed Oil manufactured by the Southern States Turpentine Co., Cleveland, Ohio, and procured from the Fletcher Hardware Co., Detroit. Not a pure linseed oil. Contains about 15-17% of a petroleum product.

No. 24277, S-562. Sample of Boiled Linseed Oil manufactured by the Globe Refining Co., Cleveland, Ohio, and procured from W. Winter, Orion. Not a pure linseed oil. Contains about 40% of a petroleum product.

No. 24306, S-563. Sample of Raw Linseed Oil manufactured by the Globe Refining Co., Cleveland, Ohio, and procured from J. H. Olin, Okemos. Sample contains about 40% of a petroleum product.

No. 24405, Unofficial. Sample of Linseed Oil. Not pure linseed oil.

MAPLE SUGAR.

No. 24236, I-1577. Sample of maple sugar procured from the store of George Stiles, Jackson, as maple sugar. Sample is not pure maple sugar.

MEATS.

No. 23823, V-301. Sample of Hamburg Steak manufactured by James Polley, Grand Rapids. Product contains sulphites, a preservative not permissible in food products.

No. 23824, V-302. Sample of Hamburg Steak manufactured and sold by Pastoor Bros., Grand Rapids. Product contains sulphites, a preservative not permissible in food products.

No. 23908, S-534. Sample of Hamburg Steak manufactured and sold by Buell Bros, Flint. Product contains sulphites, a preservative not permissible in food products.

No. 24250, I-1578. Sample of Bologna manufactured by Richard Wirsing, Jackson, and procured from George W. Houck, Jackson. No statement on the label to indicate the presence of cereal.

No. 24335, S-564. Sample of Hamburg Steak manufactured by the Bazley Market Co., Flint. Product contains sulphites, a preservative not permissible in food products.

No. 24336, S-565. Sample of Hamburg Steak manufactured by W. C. Wolcott, Flint. Product contains sulphites, a preservative not permissible in food products.

No. 24337, S-566. Sample of Hamburg Steak manufactured by W. F. Hoops, Flint. Product contains sulphites, a preservative not permissible in food products.

No. 24339, S-568. Sample of Hamburg Steak manufactured by Jones & Wooll, Flint. Sample contains sulphites, a preservative not permissible in food products.

No. 24341, S-570. Sample of Meat procured from Arthur J. Sly, Flint. Sample has undergone decomposition and is therefore unfit for human consumption.

No. 24602, S-587. Sample of Beef procured from Davidson Bros., Bellevue. Sample consists of a decomposed animal substance and is unfit for human food.

MILK.

No. 24049, P-298. Sample of milk from W. H. Hunter, Lansing. Impure milk, contains visible dirt.

No. 24050, P-299. Sample of milk from A. R. DeGraw, Lansing. Impure milk, contains visible dirt.

No. 24051, P-300. Sample of milk from L. O'Leary, Lansing. Impure milk, contains visible dirt.

No. 24052, P-301. Sample of milk from Weigman Co., Lansing. Impure milk, contains visible dirt.

No. 24053, P-302. Sample of milk produced by Bert Slocum, Lansing. and procured from F. J. Free, Lansing. Impure milk, contains visible dirt.

No. 24054, P-303. Sample of milk from Chas. Tank, Lansing. Impure milk, contains visible dirt.

No. 24055, P-304. Sample of milk from C. C. Allen, Lansing. Impure milk, contains visible dirt.

No. 24056, P-305. Sample of milk from Frank L. Smedley, Lansing. Impure milk, contains visible dirt.

No. 24057, P-306. Sample of milk from C. W. Hazelton, Lansing. Impure milk, contains visible dirt.

No. 24058, P-307. Sample of milk from E. D. Jessup, Lansing. Impure milk, contains visible dirt.

No. 24059, P-308. Sample of milk procured from the Boston Cafe, Lansing. Below standard in fat and solids. Skimmed.

No. 24060, P-309. Sample of milk procured from Bayley's Restaurant, Lansing. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 24063, P-312. Sample of milk handled by Morrison Bros., and procured from James Baker, Lansing. Impure milk, contains visible dirt.

No. 24070, P-314. Sample of milk procured from E. S. Hedley, Lansing. Impure milk, contains visible dirt.

No. 24071, P-315. Sample of milk procured from Roy B. Moore, Lansing. Impure milk, contains visible dirt.

No. 24072, P-316. Sample of milk procured from D. G. Rapp, Lansing. Impure milk, contains visible dirt.

No. 24074, P-318. Sample of milk from Morrison Bros., Lansing. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 24075, P-319. Sample of milk from N. H. Winans & Sons, Lansing. Impure milk, contains visible dirt.

No. 24076, P-320. Sample of milk from N. H. Winans & Sons, Lansing. Impure milk, contains visible dirt.

No. 24077, P-321. Sample of milk from W. H. Hunter, Lansing. Impure milk, contains visible dirt.

No. 24078, P-322. Sample of milk from Morrison Bros., Lansing. Impure milk, contains visible dirt.

No. 24079, P-323. Sample of milk from A. R. DeGraw, Lansing. Impure milk, contains visible dirt.

No. 24104, P-325. Sample of milk from N. H. Winans & Sons, Lansing. Impure milk, contains visible dirt.

No. 24105, P-326. Sample of milk from John Rehm, Lansing. Impure milk, contains visible dirt.

No. 24106, P-327. Sample of milk procured from J. L. Snyder, East Lansing. Impure milk, contains visible dirt.

No. 24107, P-328. Sample of milk from N. H. Winans & Sons, Lansing. Impure milk, contains visible dirt.

No. 24108, P-329. Sample of milk from N. H. Winans & Sons, Lansing. Impure milk, contains visible dirt.

No. 24110, P-331. Sample of milk procured from A. Schweigert, Lansing. Impure milk, contains visible dirt.

No. 24111, P-332. Sample of milk from F. E. Jipson, Lansing. Impure milk, contains visible dirt.

No. 24112, P-333. Sample of milk from F. E. Jipson, Lansing. Impure milk, contains visible dirt.

No. 24113, P-334. Sample of milk from F. E. Jipson, Lansing. Impure milk, contains visible dirt.

No. 24122, P-335. Sample of milk from G. M. Hall, Lansing. Impure milk, contains visible dirt.

No. 24124, P-337. Sample of milk from W. R. Whitney, Lansing. Impure milk, contains visible dirt.

No. 24126, P-339. Sample of milk from C. C. Holmes, Lansing. Impure milk, contains visible dirt.

No. 24127, P-340. Sample of milk sold by N. H. Winans & Sons, Lansing, and procured from Howard Link, Lansing. Impure milk, contains visible dirt.

No. 24132, P-341. Sample of milk sold by N. H. Winans & Sons, Lansing, and procured from S. Spanos, Lansing. Impure milk, contains visible dirt.

No. 24133, P-343. Sample of milk sold by N. H. Winans & Sons, Lansing, and procured from A. C. Cross, Lansing. Impure milk, contains visible dirt.

No. 24134, P-344. Sample of milk sold by N. H. Winans & Sons, Lansing, and procured from Frank DeLand, Lansing. Impure milk, contains visible dirt.

No. 24135, P-345. Sample of milk sold by N. H. Winans & Sons, Lansing, and procured from Chas. Parkham, Lansing. Impure milk, contains visible dirt.

No. 24136, P-346. Sample of milk sold by N. H. Winans & Sons, Lansing, and procured from the Paris Cafe, Lansing. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 24390, Unofficial. Sample of milk. Below standard in butter fat and total solids. Skimmed.

No. 24404, P-351. Sample of milk procured from Geo. E. Bayley, Lansing. Contains an excessive amount of dirt.

No. 24405, P-352. Sample of milk from Paris Cafe, Lansing. Contains an excessive amount of dirt.

No. 24417, P-353. Sample of milk procured from C. Force, Okemos. Contains an excessive amount of dirt.

No. 24418, P-354. Sample of milk from O. F. Tonnwell, Okemos. Contains an excessive amount of dirt.

No. 24419, P-355. Sample of milk procured from L. Dear, Okemos.

Below standard in butter fat and total solids, and contains an excessive amount of dirt.

No. 24420, P-356. Sample of milk from Ed. Bergen, Okemos. Contains an excessive amount of dirt.

No. 24421, P-357. Sample of milk from C. A. Wilson, Okemos. Contains an excessive amount of dirt.

No. 24422, P-358. Sample of milk from C. Klotz, Okemos. Impure milk, contains an excessive amount of dirt.

No. 24423, P-359. Sample of milk from W. L. Smith, Okemos. Impure milk, contains an excessive amount of dirt.

No. 24425, P-361. Sample of milk from F. Prothnow, Okemos. Impure milk, contains an excessive amount of dirt.

No. 24426, P-362. Sample of milk from W. F. Hewitt, Okemos. Impure milk, contains an excessive amount of dirt.

No. 24427, P-363. Sample of milk from George Hoskins, Okemos. Impure milk, contains an excessive amount of dirt.

No. 24428, P-364. Sample of milk from W. O. Wilson, Okemos. Impure milk, contains an excessive amount of dirt.

No. 24430, P-367. Sample of milk from H. Covert, Lansing. Impure milk, contains an excessive amount of dirt.

No. 24431, P-368. Sample of milk from L. L. Blowman, Lansing. Impure milk, contains an excessive amount of dirt.

No. 24432, P-369. Sample of milk from F. Kloepfler, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24433, P-370. Sample of milk from Ernest L. Clark, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24434, P-371. Sample of milk from D. C. Garlock, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24436, P-373. Sample of milk from C. H. McRoberts, Grand Ledge. Below standard in butter fat and total solids.

No. 24437, P-374. Sample of milk from F. R. Waidelich, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24438, P-375. Sample of milk from F. I. Slade, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24439, P-376. Sample of milk from B. W. Brandel, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24440, P-377. Sample of milk from A. Oppenlander, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24441, P-378. Sample of milk from E. F. Crosby, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24442, P-379. Sample of milk from F. Pung, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24443, P-380. Sample of milk from O. B. Dell, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24444, P-381. Sample of milk from H. N. Webb, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24445, P-382. Sample of milk from L. Knaup, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24446, P-383. Sample of milk from E. Zischke, DeWitt. Below standard in butter fat and total solids. Contains an excessive amount of dirt.

No. 24447, P-384. Sample of milk from Albert Yane, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24448, P-385. Sample of milk from T. Byra, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24449, P-386. Sample of milk from L. Leitske, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24450, P-387. Sample of milk from J. Siple, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24451, P-388. Sample of milk from J. Boichot, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24452, P-389. Sample of milk from Chas. Redoutey, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24453, P-390. Sample of milk from L. J. Boichot, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24454, P-391. Sample of milk from Fred Tueke, DeWitt. Not a pure milk, contains an excessive amount of dirt.

No. 24456, P-393. Sample of milk from J. M. Smith, Grand Ledge. Below standard in butter fat.

No. 24457, P-394. Sample of milk from J. Biebshiemer, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24458, P-395. Sample of milk from F. Well, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24459, P-396. Sample of milk from Elmer Sheets, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24460, P-397. Sample of milk from F. W. Calhoun, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24461, P-398. Sample of milk from W. Ladu, Lansing. Not a pure milk, contains an excessive amount of dirt.

No. 24462, P-399. Sample of milk from O. Felske, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24463, P-400. Sample of milk from John Divine, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24464, P-401. Sample of milk from T. F. Buehler, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24465, P-402. Sample of milk from Frank Benjamin, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24466, P-403. Sample of milk from F. Brunger, Grand Ledge. Not a pure milk, contains an excessive amount of dirt.

No. 24560, W-53. Sample of milk from L. M. Wood, Charlotte. Below standard in butter fat.

MUSTARD PREPARATIONS.

No. 24516, I-1574. Sample UNXLD Mustard Relish sold by Brown, Davis & Warner, Jackson, and procured from the store of Wm. H. Necker, Jackson. Misbranded.

No. 24575, S-584. Sample of French Mustard manufactured by Excelsior Mustard Mills, New York, and handled by Phipps, Penoyer & Co., Saginaw. Misbranded.

PEAS.

No. 24474, G-604. Sample of Soaked Peas sold by E. M. Lieblin, Houghton. Word "soaked" is not in proper sized type. Misbranded.

PEPPER.

No. 23776, S-523. Sample of black pepper sold by G. Alderton & Co., West Saginaw, and found with M. Quinlan, West Saginaw. Above the legal standard in crude fibre content.

PRESERVES.

No. 24037, G-582. Sample of preserves manufactured by the St. Louis Syrup and Preserving Co., St. Louis, Mo. Misbranded.

PRESERVATIVES.

No. 24096, I-1575. Sample of XXX Preservaline manufactured by the Preservaline Manufacturing Co., Brooklyn, N. Y., and found with Wagner Bros., Kalamazoo. Sample contains sodium sulphite, a preservative not permissible in food products.

SOFT DRINKS.

No. 24252, K-149. Sample of Iron Port manufactured and sold by John Scheu, 1659 Concord St., Detroit. Product contains saccharin.

No. 24253, K-150. Sample of Cream Soda manufactured by John Scheu, 1659 Concord St., Detroit. Product contains saccharin.

No. 24255, K-152. Sample of Lemon Soda manufactured by John Scheu, Detroit. Product contains saccharin.

No. 24580, G-621. Sample of White Pop manufactured by Wendell & Luoma, Hancock. Saccharin present.

No. 24581, G-622. Sample of Red Pop manufactured by Wendell & Luoma, Hancock. Saccharin present.

No. 24582, G-623. Sample of Soft Drink manufactured by Wendell & Luoma, Hancock. Saccharin present.

VINEGAR.

No. 24011, S-543. Sample of Dixie Vinegar manufactured by the Dixie Sugar Vinegar Co., Chicago, Ill., and procured from P. E. Kirkham, Vernon. Below standard in acidity.

No. 24351, K-154. Sample of "Pure Fermented Cider Vinegar" manufactured by the Chas. Uelsmann Co., Ltd., Detroit, and procured from the Edward Henkel Co., Detroit. Sample contains material foreign to cider vinegar. Not a pure cider vinegar.

No. 24352, K-155. Sample of "Pure Fermented Cider Vinegar" manufactured by the Chas. Uelsmann Co., Ltd., Detroit, and procured from the store of Grones & Brehmer, Detroit. Below standard in total solids. Sample contains added foreign material high in reducing sugars.

No. 24353, K-156. Sample of "Pure Fermented Cider Vinegar" manufactured by the Chas. Uelsmann Co., Ltd., Detroit, and procured from Roehrig & Foerster, Detroit. Sample consists of a mixture of dilute acetic acid or distilled vinegar, and foreign material high in reducing sugars, in imitation of genuine cider vinegar.

No. 24354, K-157. Sample of "Pure Fermented Cider Vinegar" manufactured by the Chas. Uelsmann Co., Ltd., Detroit, and procured from the Dueweke Grocery Co., Detroit. Below standard in total solids. Sample contains foreign material high in reducing sugars.

No. 24355, K-158. Sample of "Pure Fermented Cider Vinegar" manufactured by the Chas. Uelsmann Co., Ltd., Detroit, and procured from Lee & Cady, Detroit. Sample consists wholly or in part of a mixture of dilute acetic acid, or distilled vinegar, and foreign material high in reducing sugars, in imitation of genuine cider vinegar. Below standard in ash and total solids.

No. 24356, K-159. Sample of "Pure Fermented Cider Vinegar" manufactured by the Chas. Uelsmann Co., Ltd., Detroit, and procured from N. Wolfelder & Co., Detroit. Below standard in ash. Sample consists wholly or in part of a mixture of dilute acetic acid, or distilled vinegar, and foreign material high in reducing sugars, in imitation of genuine cider vinegar.

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Dickinson County, May:					
Asselin Farm Creamery	Norway	W. F. Asselin			Good
Best Bros. Creamery	Iron Mountain	Best Brothers	10,000	97,866	Good
Norway Creamery Co.	Norway	Stock		41,376	Good
Genesee County, May:					
Fenton Creamery	Fenton	Halpin Creamery Co.			Fair
Houghton County, May:					
Chassell Creamery	Chassell	Stock Co.			Good
Ingham County, May:					
Leslie Butter Co.	Leslie	E. J. Kneibehler	75,000	62,000	Good
Mason Creamery Co.	Mason	A. A. Howlett			Good
Stockbridge Creamery	Stockbridge	H. J. Kiepert		110,000	Good
Lenawee County, May:					
Maple City Creamery	Adrian	W. A. Barnaby	1,656,000	66,240	Good
Monroe County, May:					
Haselwood Creamery	Petersburg	R. G. Peters	540,000	25,484	Fair
New Port Skimming Station	New Port	C. W. Beckham			Fair
Stoney Creek Skimming Station	Stoney Creek	W. S. Vivian			Good
Ontonagon County, May:					
Ontonagon Creamery Co.	Ontonagon	Edward Shemly			Good
Ottawa County, May:					
Crisp Creamery Co.	Holland	A. J. Nienhuis			Good
Saginaw County, May:					
Gera Creamery	Gera	Chas. F. Hack	1,200,000	115,000	Good
Hemlock Creamery Co.	Hemlock	Wm. Pahl		205,000	Good
Merrill Creamery Co.	Merrill	P. O'Toole		80,000	Good
Shiawassee County, May:					
Morris Creamery	Morris	Bishop Creamery Co.			Good
Washtenaw County, May:					
Stony Creek Skimming Station	Ypsilanti	Ypsilanti Dairy Ass'n.			Good
Towar Skimming Station	Whittaker	Towar Creamery Co.			Fair
Willis Creamery	Willis	C. E. Albin	2,715,984	10,000	Good
Wurster Bros.	Ann Arbor	J. Wurster	1,466,964	2,000	Fair
Wayne County, May:					
Cottage Grove Creamery	Detroit				Good
Van Buren Creamery Co.	Belleville	Geo. E. Quirk	4,260,211	194,455	Fair
West Sumpter Creamery	West Sumpter	John Tabor			Good
Gogebic County, June:					
Buss Creamery	Ironwood	A. C. Buss		40,000	Good
Gratiot County, June:					
Breckenridge Creamery Co.	Breckenridge	T. Eldridge		336,000	Good

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Valve.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good.					Good.		Good.	Good.	Good.			96
Good.			Good.	Good.	Good.			Good.	Good.	Good.		
	Good.				Good.		Fair.	Good.	Good.	Good.		
Good.					New.	New.			Good.	Good.		
Fair.	Fair.				Good.		Fair.	Good.	Good.	Good.		90
Fair.	Fair.				Good.		Fair.	Good.	Good.	Good.		91
Good.	Fair.		Fair.	Fair.	Good.		Fair.	Fair.	Fair.	Fair.	Fair.	88
Good.		Good.	Good.		Good.	Clean.	Good.	Good.	Good.	Good.	Good.	94
Good.	Good.	Good.	Good.	Good.	Fair.	Good.	Good.	Good.	Good.	Good.	Good.	85
Good.					Good.	Clean.	Good.			Good.	Good.	
Good.					New.			New.	New.	New.		90
Good.	Good.	Good.	Fair.		Fair.	Fair.	Fair.	Good.	Good.	Good.	Fair.	93
Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	92
Good.	Good.	Good.	Good.	Good.	Good.	Good.	Fair.	Good.	Good.	Good.	Good.	90
Good.	Fair.			Good.	Fair.		Fair.	Good.	Good.	Good.		94
Good.	Good.				Good.		Fair.	Good.	Good.	Good.		91
Good.	Good.	Good.	Fair.			Good.	Good.			Good.	Good.	
Good.	Good.	Good.	Good.	Good.	Good.	Clean.	Good.		Good.	Good.	Good.	
Good.	Good.	Good.	Good.	Good.	Good.	Clean.	Good.	Good.	Good.	Good.	Good.	89
	Good.						Good.			Good.	Good.	
Fair.	Fair.	Good.	Good.		Fair.	Good.	Fair.	Fair.	Fair.	Good.	Good.	93
Good.	Good.		Good.		Good.	Fair.	Good.	Good.	Good.	Good.	Good.	96
Good.			Good.		Good.			Good.	Good.			92
Clean.	Good.			Good.	Good.		Good.	Good.	Good.	Good.		92

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Huron County, June:					
Huron County Creamery Co.....	Pigeon.....	J. Ulrich.....		120,000	Good...
Pigeon Butter Co.....	Pigeon.....	F. Kinch.....		125,000	Good...
Pigeon Creamery Co.....	Pigeon.....	J. F. Phillips.....		380,000	Good...
Ruth Creamery Co.....	Ruth.....	John Wahla.....		260,000	Good...
Thumb Creamery Co.....	Owendale.....	W. H. Bechtel.....		52,000	Fair...
Lapeer County, June:					
Hadley District Dairy Assn.....	Hadley.....	F. T. Hadley.....		140,000	Good...
Imlay City Creamery.....	Imlay City.....	Wm. Muir.....		180,000	Fair...
Lapeer County Creamery Co.....	Lapeer.....	R. F. Frary.....		166,000	Good...
Lum Creamery Co.....	Lum.....	Geo. McNally.....		50,000	Good...
Metamora Butter Co.....	Metamora.....	J. C. Weiskirch.....		110,000	Good...
Peoples Creamery.....	North Branch.....	Thos. Stacy.....		220,000	Good...
Macomb County, June:					
Armada Creamery.....	Armada.....	C. M. Parich.....		55,000	Fair...
Davis Creamery.....	Davis.....	I. W. Ellis.....		104,000	Good...
New Haven Elgin Creamery Co.....	New Haven.....	W. F. Edmunds.....	1,700,000	762,280	Good...
Richmond Creamery.....	Richmond.....	H. A. Zentgrebe.....		150,000	Fair...
Romeo Elgin Creamery.....	Romeo.....	L. B. Crawford.....		194,000	Good...
Utica Creamery.....	Utica.....				Good...
Ontonagon County, June:					
Ontonagon Valley Creamery Co.....	Ontonagon.....	Carl Hatfield.....		67,000	Good...
Sanilac County, June:					
Applegate Creamery.....	Applegate.....	W. T. Leonard & Co.....		110,000	Fair...
Brown City Creamery.....	Brown City.....	John E. Ross.....		225,000	Good...
Crowell Creamery.....	Crowell.....	F. E. Brown.....		95,834	Good...
Equity Creamery Co.....	Marlette.....	F. T. Hadley.....		163,384	Good...
L. H. Riedel Creamery.....	Minden City.....	L. H. Riedel.....		85,000	Good...
Roseburg Creamery.....	Roseburg.....	N. Donnenworth.....		107,195	Fair...
Shabbona Creamery Co.....	Shabbona.....	R. M. Riley.....		211,000	Good...
Union Creamery Co.....	Deckerville.....	A. G. Digby.....		225,000	Good...
St. Clair County, June:					
Avoca Butter Co.....	Avoca.....	John Batten.....		271,000	Good...
Casco Creamery.....	Casco.....	Chas. Zentgrebe.....		50,000	Good...
Yale Creamery Co.....	Yale.....	James Wallace.....		130,000	Good...
Tuscola County, June:					
Mayville Creamery Co.....	Mayville.....	J. B. Foster.....			Good...
Thumb Creamery Co.....	Cass City.....	W. H. Bechtel.....		104,000	Good...
Thumb Creamery Co.....	Caro.....	W. H. Bechtel.....		111,898	Good...

CREAMERIES.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engin.	Boiler.		
Clean.	Fair.				Fair.		Fair.	Good.	Good.	Good.		91
Clean.	Fair.				Fair.		Fair.	Good.	Fair.	Fair.		90
Clean.	Fair.			Good.	Fair.		Fair.	Good.	Good.	Good.		92
Clean.	Fair.				Fair.		Fair.	Fair.	Fair.	Fair.		91
Clean.	Fair.				Fair.		Fair.	Good.	Good.	Good.		91
Good.	Fair.				Good.		Fair.	Good.	Fair.	Good.		92
Good.	Fair.			Good.	Good.		Good.	Good.	Fair.	Fair.		94
Good.	Good.			Good.	Good.		Good.	Good.	Good.	Good.		94
Clean.	Fair.			Good.	Fair.		Fair.	Fair.	Fair.	Fair.		90
Good.	Good.		Good.	Good.	Good.		Good.	Good.	Good.	Good.		94
Clean.	Fair.				Fair.		Fair.	Good.	Fair.	Fair.		90
Clean.	Clean.	Good.	Good.		Fair.		Fair.	Good.	Fair.	Fair.	Fair.	90
Good.	Good.	Good.	Good.		Fair.	Fair.	Fair.	Good.	Good.	Good.	Good.	93
Clean.	Clean.				Good.		Good.	Good.	Good.	Fair.		93
Good.	Good.	Good.	Good.		Good.	Good.	Good.	Good.	Good.	Good.	Good.	94
Good.				Good.	Good.				Good.	Good.		93
Clean.	Fair.				Fair.		Fair.	Clean.	Fair.	Fair.		90
Clean.	Good.			Good.	Fair.		Fair.	Fair.	Good.	Good.		92
Clean.	Good.			Good.	Good.		Good.	Good.	Good.	Good.		93
Clean.	Good.				Fair.		Fair.	Good.	Good.	Good.		92
Clean.	Fair.				Fair.		Fair.	Good.	Fair.	Fair.		92
Clean.	Fair.			Good.	Fair.		Fair.	Good.	Good.	Good.		91
Clean.	Fair.				Good.		Fair.	Good.	Good.	Good.		90
Clean.	Good.				Clean.		Fair.	Good.	Good.	Good.		93
Clean.	Good.				Good.							92
Clean.	Good.	Good.	Good.	Good.	Good.	Clean.	Good.	Fair.	Good.	Good.	Good.	96
Clean.	Fair.			Good.	Fair.		Fair.	Fair.	Fair.	Good.		93
Clean.					Good.		Fair.	Good.	Fair.	Good.		92
Clean.	Fair.				Good.		Fair.	Fair.	Good.	Good.		92
Clean.	Good.				Good.		Fair.	Good.	Good.	Good.		93

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese.	Style.
Ingham County, May:					
Williamston Cheese Factory....	Williamston....	H. J. Bivins	1,128,668	109,583	Soft Michigan.....
Lenawee County, May:					
Jasper Cheese Factory.....	Jasper	Geo. B. Horton			Soft Michigan.....
Saginaw County, May:					
Standard Cheese Factory	Birch Run.....	F. L. Kent	1,200,000	120,000	Soft Michigan.....
Star Cheese Factory.....	Frankenmuth....	J. Schellhas.....			Soft Michigan.....
Union Cheese Mfg. Co.....	Frankenmuth....	C. Schwartakopp.....	2,131,337	210,174	Soft Michigan.....
Shiawassee County, May:					
Bancroft Cheese & Butter Co....	Bancroft	McLaren Imperial Cheese Co., Detroit			Cheddar.....
Perry Cheese & Butter Co.....	Perry.....	Halpin Creamery Co.....			Michigan Cheddar...
Lapeer County, June:					
Clifford Cheese Factory.....	Clifford	W. B. Wilson.....			Michigan Cheddar...
Lenawee County, June:					
Munson Cheese Factory.....	Munson	N. Horton.....			Michigan Soft.....
Sanilac County, June:					
Downington Cheese Factory....	Downington	H. W. Muir.....	700,000		Canadian Cheddar...

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
William Bivins.....	Good	2, good ..	1 .....	.....	Fair ....	.....	8 H. P..	Fair ....	.....
W. C. Huyok	Fair	3, fair....	2 .....	.....	Fair ....	.....	8 H. P..	Very good .....	.....
Earl Davis	Good	3, good ..	1 .....	.....	.....	.....	12 H. P..	Fair ....	.....
John Schellhas	Good	2, fair....	2 .....	.....	Fair	Marshall	12 H. P..	Fair	Artificial.
Wm. Blumlein.....	Good	3, good ..	2 .....	.....	Fair	Marshall	10 H. P..	Good	Artificial.
H. A. Raty	Good	4, good ..	1 .....	.....	Fair ....	.....	20 H. P..	Fair	Artificial.
G. H. Glasser	Fair	2, fair....	.....	Dirty....	Fair	Marshall	6 H. P..	Good ....	.....
Frank McGuire	Good	3, clean ..	1 .....	.....	Good	Marshall	25 H. P..	Fair	Artificial.
Charles Weaver	Fair	2, good ..	2 .....	.....	Fair ....	.....	8 H. P..	Good ....	.....
H. W. Muir.....	Good....	3, good...	1 .....	.....	.....	.....	20 H. P..	Good....	.....

Name.	Postoffice.	Patron of.	Total No. of cows.	No. cows giving milk.	Daily production of milk in pounds.	Breed.
Alpena County, May:						
Hall & Atkins.....	Alpena.....	Hall & Atkins.....	7	7	.....	Graded.....
Wm. Beaudoin.....	Alpena.....	Joe Saro.....	6	6	.....	Graded.....
James Bowden.....	Hubbard Lake.....	J. W. Gavagan.....	18	14	.....	Graded.....
John Dulby.....	Alpena.....	Alpena Farm Products Co.....	7	6	.....	Graded.....
Mrs. I. Ellison.....	Alpena.....	Alpena Farm Products Co.....	7	7	.....	.....
G. Gagnon.....	Alpena.....	Peter Gavaston.....	10	7	.....	Graded.....
John Mainville.....	Alpena.....	Frank Mainville.....	6	5	.....	Graded.....
I. Pamerleau.....	Alpena.....	J. W. Gavagan.....	6	5	.....	Graded.....
Geo. Stovel.....	Hubbard Lake.....	J. W. Gavagan.....	15	13	.....	Graded.....
Ernest Wilke.....	Alpena.....	J. W. Gavagan.....	7	6	.....	Graded.....
Bay County, May:						
W. A. Cameron.....	Bay City.....	City.....	28	24	.....	Holsteins.....
Frank Culver.....	Bay City.....	William Cuthbert.....	14	13	.....	Graded.....
James Dunn.....	Bay City.....	Fred Nehls.....	9	9	.....	Jersey.....
Mrs. S. H. M. Gates.....	Bay City.....	J. J. McGinty.....	28	26	.....	Graded.....
Robert Graham.....	Bay City.....	Charles Roth.....	10	9	.....	Graded.....
O. W. Hawkins.....	Bay City.....	S. S. Shants.....	3	3	.....	Graded.....
Henry Matts.....	Bay City.....	Charles Roth.....	12	10	.....	Graded.....
Wm. Merritt.....	Bay City.....	J. J. McGinty.....	10	10	.....	Graded.....
Walter Merritt.....	Bay City.....	J. J. McGinty.....	10	7	.....	Graded.....
Theodore Meyer.....	Bay City.....	James Battle & F. Nehls.....	35	32	.....	Graded.....
Peter Vandenbergart.....	Bay City.....	S. S. Shants.....	11	11	.....	Holsteins.....
B. Voss.....	Bay City.....	John Gustavson.....	15	13	.....	Graded.....
Fred Wagner.....	Bay City.....	J. B. Stevens.....	12	10	.....	Graded.....
Phillip Wagner.....	Bay City.....	Wm. Cuthbert.....	15	14	.....	Graded.....
Fred Whipple.....	Bay City.....	S. S. Shants.....	3	2	.....	Graded.....
Clinton County, May:						
J. B. Cater.....	Lansing.....	A. R. DeGraw.....	5	5	180	Mixed.....
W. J. Epley.....	Lansing.....	A. R. DeGraw.....	7	5	188	Mixed.....
Chas. Kent.....	Lansing.....	A. R. DeGraw.....	10	6	75	Mixed.....
Alfred Schoals.....	Lansing.....	A. R. DeGraw.....	9	7	.....	Mixed.....
Frank Young.....	Lansing.....	A. R. DeGraw.....	13	11	300	Mixed.....
Eaton County, May:						
G. F. Baldof.....	Lansing.....	N. H. Winans & Son.....	8	8	158	Mixed.....
Henry Bollman.....	Lansing.....	N. H. Winans & Son.....	9	9	175	Mixed.....
I. Burrell.....	Lansing.....	N. H. Winans & Son.....	10	5	48	Mixed.....
J. F. Ellett.....	Lansing.....	N. H. Winans & Son.....	6	5	72	Mixed.....
P. R. Felake.....	Lansing.....	N. H. Winans & Son.....	11	8	.....	Mixed.....
F. W. Foster.....	Lansing.....	N. H. Winans & Son.....	9	7	.....	Holsteins.....
W. A. Foster.....	Lansing.....	N. H. Winans & Son.....	10	6	130	Mixed.....
Emmett Foster.....	Lansing.....	N. H. Winans & Son.....	13	6	.....	Mixed.....
J. W. Frank.....	Lansing.....	N. H. Winans & Son.....	3	2	.....	Holsteins.....
W. F. Holloway.....	Lansing.....	N. H. Winans & Son.....	8	7	.....	Holsteins.....
John Huxtable.....	Lansing.....	N. H. Winans & Son.....	9	5	.....	Mixed.....
A. Reeve.....	Lansing.....	N. H. Winans & Son.....	9	9	.....	Mixed.....
L. W. Reeves.....	Lansing.....	N. H. Winans & Son.....	14	7	.....	Mixed.....
John Schneberger.....	Lansing.....	N. H. Winans & Son.....	9	8	200	Mixed.....
E. C. Sharp.....	Lansing.....	N. H. Winans & Son.....	11	6	.....	Mixed.....
Henry Sindlinger.....	Lansing.....	N. H. Winans & Son.....	6	6	.....	Holsteins.....
Myron Smith.....	Lansing.....	N. H. Winans & Son.....	7	7	258	Holsteins.....
C. G. Stiefel.....	Lansing.....	N. H. Winans & Son.....	6	6	.....	Holsteins.....
C. A. Winters.....	Lansing.....	N. H. Winans & Son.....	6	6	100	Mixed.....

OF DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Hay, gluten feed, chop feed	Yes...	Windows	Yes...	Fair ..	Drive well.
Hay	No	Windows	Yes...	No	Drive well.
Hay	No	Windows	Yes...	No	Drive well.
Corn stalks	No	Door	No	No	Open well.
Hay, rye, flour	Yes...	Windows	Fair ..	No	Drive well.
Hay, corn stalks	No	Door	No	No	Open well.
Hay	No	Windows	No	No	Drive well.
Hay, beet pulp, bran, chopped feed	No	Windows	No	No	Drive well.
Hay, chop feed, bran	No	King system	Yes...	Yes...	Drive well.
Hay, silage, barley, cottonseed	Yes...	Windows	Yes...	Yes...	Drive well.
Hay, silage, bran, cottonseed	Yes...	Windows	Yes...	Yes...	Drive well.
Hay, corn meal, silage	Yes...	Windows	Yes...	Yes...	Drive well.
Hay, beet pulp, silage	No	Windows	No	Medium	Tubular well.
Hay, corn stalks, bran	Yes...	Trap doors	No	Yes...	Drive well.
Hay, beet pulp, cottonseed, bran	No	Door and windows	No	No	Drive well.
Hay, dairy feed, beet pulp	Yes...	Windows	Yes...	Medium	Drive well.
Hay, beet pulp, cottonseed meal	Yes...	Air shaft	Yes...	No	Drive well.
Hay, oats, bran, cottonseed meal	No	Windows	No	No	Drive well.
Hay, corn, oats, brewery grains	Yes...	Windows	Yes...	Yes...	Drive well.
Hay, silage, oats, rye	No	Hay chute	Medium	Yes...	Drive well.
Hay, silage, brewery grains	No	Windows	No	No	Drive well.
Hay, beet pulp, bran	Yes...	Windows	No	Yes...	Drive well.
Hay, cornstalks, corn, oats	No	Hay chute	No	No	Drive well.
Corn stalks	No	Hay chute	No	No	Drive well.
Pasture	No	Hay chute	Fair ..	Yes...	Drive well.
Pasture	No	Windows and chute	Fair ..	Yes...	Drive well.
Pasture	No	Doors and windows	No	Yes...	Drive well.
Pasture	Medium	Stairway and windows	Medium	Yes...	Drive well.
Pasture	Medium	Windows and hay chute	Medium	Yes...	Drive well.
Pasture	Medium	Open stairway	No	Yes...	Drive well.
Pasture	Medium	Hay chute	No	Yes...	Drive well.
Pasture	Yes...	Hay chute	Yes...	Yes...	Drive well.
Pasture	Medium	Hay chute	Medium	Yes...	Drive well.
Pasture	Yes...	Hay chute	No	Yes...	Drive well.
Pasture	Medium	Cracks	Medium	Yes...	Drive well.
Pasture	Medium	Cracks	No	Yes...	Drive well.
Pasture	Medium	Openings	Medium	Yes...	Drive well.
Pasture	Yes...	Hay chute	No	Yes...	Drive well.
Pasture	Medium	Openings	No	Yes...	Drive well.
Pasture	Medium	Windows and chute	Medium	Yes...	Drive well.
Pasture	Medium	Openings	No	Yes...	Drive well.
Pasture	Medium	Hay chute	Yes...	Yes...	Drive well.
Pasture	Medium	Openings	No	Yes...	Drive well.
Pasture	Yes...	Openings	Medium	Yes...	Drive well.
Pasture	Medium	Door and hay chute	Medium	Yes...	Drive well.
Pasture	Yes...	Openings	Medium	Yes...	Drive well.
Pasture	Medium	Hay chute	Medium	Yes...	Drive well.

Name.	Postoffice.	Patron of.	Total No. of cows	No. of cows giving milk	Daily production of milk in pounds.	Breed.
Ingham County, May:						
L. Acker	Lansing	W. H. Hunter	4	4	65	Mixed.
C. C. Allen	Lansing	Self.	16	16		Mixed.
Otto Andrews	Lansing	N. H. Winans & Sons	9	9		Mixed.
T. E. Balleau	Lansing	C. C. Holmes	7	7	120	Mixed.
Fred Baughart	Lansing	F. E. Jipson	8	8	135	Mixed.
H. D. Box	Lansing	N. H. Winans & Sons	11	10		Holstein.
W. R. Box	Lansing	N. H. Winans & Sons	5	3		Mixed.
Henry Carr	Lansing	W. H. Hunter	13	11	120	Mixed.
E. J. Collins	Lansing	N. H. Winans & Sons	6	6		Holstein.
F. E. Corbin	Lansing	Self.	18	16		Mixed.
E. Costigan	Lansing	N. H. Winans & Sons	6	5		Mixed.
J. B. DeLancy	Lansing	N. H. Winans & Sons	7	7		Mixed.
J. R. Dunlap	Lansing	C. C. Holmes	5	6		Mixed.
Herbert Everett	Lansing	W. H. Hunter	5	5		Mixed.
Chas. Everett	Lansing	W. H. Hunter	11	8		Mixed.
Arthur Everett	Lansing	W. H. Hunter	7	7		Mixed.
R. D. Felton	Lansing	N. H. Winans & Sons	5	3		Mixed.
August Ferler	Lansing	Walter Fuller	6	6	125	Mixed.
Wm. Froelert	Lansing	N. H. Winans & Sons	6	5		Mixed.
I. S. Haag	Lansing	C. C. Holmes	8	6		Mixed.
C. W. Haselton	Lansing	Self.	7	7		Mixed.
H. W. Helmker	Lansing	F. E. Jipson	7	6	115	Mixed.
E. J. Humelberger	Lansing	F. E. Jipson	9	8	165	Mixed.
Myron S. Holmes	Lansing	C. C. Holmes	8	7		Mixed.
C. C. Holmes	Lansing	Self.	1	1		Mixed.
J. H. Hullett	Lansing	N. H. Winans & Sons	4	4		Mixed.
G. J. Hume	Lansing	N. H. Winans & Sons	2	2		Mixed.
E. D. Jessup	Lansing	Self.	22	22		Guernsey-Holstein.
Wm. Kurts	Lansing	N. H. Winans & Sons	4	4		Mixed.
Chas. H. Kurts	Lansing	N. H. Winans & Sons	5	5		Holstein.
August Kurts	Lansing	N. H. Winans & Sons	12	10		Mixed.
Geo. D. McKim	Lansing	N. H. Winans & Sons	12	10		Mixed.
Frank McKim	Lansing	W. R. Whitney	7	7	140	Holstein.
Robert McKim	Lansing	W. R. Whitney	2	2		Mixed.
Roy B. Moore	Lansing	Self.	13	12		Mixed.
Geo. Miller	Lansing	W. H. Hunter	5	5	120	Mixed.
S. North	Lansing	W. H. Hunter	5	3	25	Mixed.
L. O'Leary	Lansing	Self.	13	13		Mixed.
Fred A. Palmer	Lansing	W. H. Hunter	5	3		Mixed.
O. H. Philo	Lansing	L. O'Leary	6	5		Mixed.
D. G. Rapp	Lansing	Self.	25	21		Holstein.
Andrew Riskey	Lansing	Chas. Tank	11	11	269	Mixed.
Chas. Rusk	Lansing	N. H. Winans & Sons	3	3		Mixed.
Julius Semran	Lansing	N. H. Winans & Sons	13	12		Mixed.
Fred E. Shubel	Lansing	W. R. Whitney	10	7	272	Holstein.
A. Simons	Lansing	N. H. Winans & Sons	12	8	200	Mixed.
A. Storfs	Lansing	N. H. Winans & Sons	5	5		Mixed.
Chas. Tank	Lansing	Self.	6	5		Mixed.
E. J. Vaughn	Lansing	N. H. Winans & Sons	10	5		Holstein.
Geo. Waite	Lansing	C. W. Haselton	8	8		Mixed.
Louis Weiber	Lansing	Chas. Tank	3	2		Mixed.
Mrs. Mary Weiland	Lansing	N. H. Winans & Sons	11	9		Mixed.
W. & I. Wigman	Lansing	Self.	14	14		Mixed.
Arthur Wimple	Lansing	W. H. Hunter	6	4		Mixed.

OF DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Pasture, hay, bran, middlings	Fair...	Door and windows	Fair...	Yes...	Drive well.
Pasture, hay, silage	Medium	Door and windows	Yes...	Yes...	Drive well.
Pasture	Medium	Door and windows	Medium	Yes...	Drive well.
Hay, fodder, corn, oats	Medium	Door and windows	No...	No...	Tubular well.
Pasture	Medium	Door and windows	Medium	Yes...	Tubular well.
Pasture	Medium	Hay chute	Fair...	Yes...	Drive well.
Pasture	No...	Door and window	No...	Yes...	Drive well.
Pasture, silage, corn, oats	Yes...	Door and silo shaft	Yes...	Yes...	Tubular well.
Pasture	No...	Door and cracks	No...	Yes...	Drive well.
Pasture	Yes...	Door and openings	Yes...	Yes...	
Pasture	Medium	Door and windows	Medium	Yes...	Drive well.
Pasture	No...	Door and windows	Fair...	Yes...	Drive well.
Pasture	Fair...	Door and windows	No...	Yes...	Open well.
Pasture	Yes...	Door, hay chute	Medium	Medium	Tubular well.
Pasture	Yes...	Door and windows	Yes...	Medium	Tubular well.
Pasture	No...	Door and windows	No...	Medium	Tubular well.
Pasture	No...	Hay chute	Yes...	Yes...	Drive well.
Pasture, hay, corn, oats	Medium	Doors and windows	Medium	Yes...	Tubular well.
Pasture	No...	Door, hay chute	No...	Yes...	Drive well.
Pasture, hay	No...	Door, windows	Fair...	Yes...	Tubular well.
Pasture, silage	Medium	Door, window	Medium	Yes...	Tubular well.
Pasture	Medium	Door, trap door	Medium	Yes...	Tubular well.
Pasture	Medium	Door, window	Medium	Yes...	Tubular well.
Pasture	No...	Doors and windows	Fair...	Yes...	Open well.
Pasture	Fair...	Doors and windows	Medium	Yes...	Tubular well.
Pasture	No...	Door, cracks	No...	Yes...	Drive well.
Pasture	No...	Door, windows	No...	Yes...	Drive well.
Pasture	No...	Door, windows	Yes...	Medium	Tubular well.
Pasture	Medium	Hay chute	Fair...	Yes...	Drive well.
Pasture	No...	Stairway, door	Fair...	Yes...	Drive well.
Pasture	Yes...	Hay chute	Yes...	Yes...	Drive well.
Pasture	No...	Hay chute, stairway	No...	Yes...	Drive well.
Pasture	Medium	Silo shaft	Yes...	Yes...	Tubular well.
Pasture	Fair...	Door, windows	No...	Yes...	Tubular well.
Silage, hay, cottonseed meal	Medium	Door, windows	Medium	Yes...	Drive well.
Pasture, silage	Fair...	Door, windows	Medium	Yes...	Drive well.
Pasture, corn, oats, wheat	Medium	Door, windows	No...	Yes...	Drive well.
Pasture	Medium	Hay chute	Fair...	Yes...	Drive well.
Pasture, corn, oats	Fair...	Door	No...	Yes...	Open well.
Pasture	Medium	Hay chute	No...	Yes...	Open well.
Pasture	Yes...	Door, hay chute	Yes...	Yes...	Drive well.
Pasture	Medium	Hay chute	Fair...	Yes...	Drive well.
Pasture	Medium	Windows and doors	Fair...	Yes...	Drive well.
Pasture	No...	Windows and doors	Medium	Yes...	Drive well.
Pasture	Medium	Silo shaft, chute	Medium	Yes...	Tubular well.
Pasture	Medium	Hay chute	Medium	Yes...	
Pasture	No...	Door, windows	No...	Yes...	Drive well.
Pasture	Medium	Hay chute, windows	Yes...	Yes...	Drive well.
Pasture	No...	Door, windows	Fair...	Yes...	Drive well.
Pasture	No...	Door, windows	No...	Medium	Tubular well.
Pasture	Medium	Hay chute, windows	Medium	Yes...	Drive well.
Pasture	No...	Hay chute, stairway	No...	Yes...	Drive well.
Fodder, silage, cottonseed meal	Fair...	Door, windows	Fair...	Fair...	Tubular well.
Pasture, silage	Medium	Door, windows	Fair...	Yes...	Drive well.

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Daily production of milk in pounds.	Breed.
Saginaw County, May:						
Sam Packel.....	Buena Vista.....		19	15	.....	Graded.....
St. Clair County, May:						
Port Huron Creamery Co	Port Huron.....	Port Huron Creamery Co...	100	84	.....	Graded.....
M. W. Mills.....	Port Huron.....	Port Huron Creamery Co...	24	14	.....	Graded.....
Washtenaw Co., May:						
Bert Ainsworth.....	Ypsilanti.....	Retails to city.....	40	30	.....
Chas. Alber.....	Saline.....	Stoney Creek Creamery...	10	7	70	Graded.....
Alonse Austin.....	Ypsilanti.....	O. A. Ainsworth.....	12	10	100	Graded.....
W. E. Beard.....	Ypsilanti.....	Retails to city.....	17	12	150	Graded.....
F. S. Begole.....	Ypsilanti.....	B. A. Begole.....	12	11		Jersey.....
B. A. Begole.....	Ypsilanti.....	Retails to city.....	11	10	160	Graded.....
Adolph Berger.....	Ypsilanti.....		4	4	80	Graded.....
R. J. Bird.....	Ypsilanti.....	Scotney Bros.....	10	8	160	Holstein.....
L. Casey.....	Ypsilanti.....	Foster Creamery.....	9	9	80	Graded.....
Geo. W. Crane.....	Ypsilanti.....	Ypsilanti Creamery.....	10	10	125	Graded.....
Frank Davis.....	Ypsilanti.....	Ypsilanti Creamery.....	6	4	60	Graded.....
James Downey.....	Ypsilanti.....	Ypsilanti Creamery.....	6	6	120	Graded.....
Albert Foerester.....	Ypsilanti.....	Ypsilanti Creamery.....	12	10	160	Graded.....
Lee Fry.....	Ypsilanti.....	Ypsilanti Creamery.....	12	7	160	Graded.....
H. L. Gabel.....	Ypsilanti.....	Ypsilanti Creamery.....	28	20	430	Graded.....
John Gault.....	Ypsilanti.....	Retails to city.....	28	24	500	Jerseys.....
Edward Gotts.....	Ypsilanti.....	Ypsilanti Creamery.....	3	3	35	Graded.....
Nathin Hamilton.....	Ypsilanti.....	Foster Creamery.....	10	4	60	Graded.....
E. D. Holmes.....	Ypsilanti.....	Foster Creamery.....	12	10	125	Graded.....
Louis Kline.....	Ypsilanti.....	Ypsilanti Creamery.....	2	2	25	Graded.....
Thomas Knight.....	Ypsilanti.....		8	4	50	Graded.....
Fred Krummel.....	Ypsilanti.....	Frank Begole.....	15	14	.....	Graded.....
Henry Laffin.....	Ypsilanti.....	Ypsilanti Creamery.....	4	4	80	Graded.....
Dennis Long.....	Ypsilanti.....	Retails to city.....	16	15	200	Graded.....
John Maulbetach.....	Ypsilanti.....	Bert Ainsworth.....	18	19	.....	Graded.....
J. Moore.....	Ypsilanti.....	Ypsilanti Creamery.....	9	9	150	Jersey.....
Dwight Peck.....	Ypsilanti.....	Retails.....	3	2	30	Graded.....
Chas. Peck.....	Ypsilanti.....	Retails.....	4	4	35	Graded.....
M. M. Read.....	Ypsilanti.....		40	37	850	Graded.....
Joe Richardson.....	Ypsilanti.....	Foster Creamery.....	2	2	40	Graded.....
Chas. S. Roberts.....	Ypsilanti.....	F. S. Begole.....	7	7	.....	Holstein.....
C. K. Ross.....	Ypsilanti.....		5	3	60	Graded.....
Scotney Bros.....	Ypsilanti.....	Retails to city.....	25	21	500	Graded.....
Joseph St. Aubin.....	Ypsilanti.....	Ypsilanti Creamery.....	10	7	100	Graded.....
O. K. Wales.....	Ypsilanti.....	Retails.....	14	14	240	Graded.....

OF DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Hay, middlings, cornmeal.....	No.....	From above.....	.....	No.....	Drive well.
Hay, cottonseed, bran.....	No.....	Window.....	Yes.....	No.....	Drive well.
Grass.....	No.....	Window.....	Yes.....	No.....	Drive well.
Hay, ensilage, gluten.....	Yes.....	Doors, windows, chutes.....	Yes.....	Yes.....	Tubular well.
Ensilage, pasture, corn, oats.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Cornfodder, hay, corn, oats.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Cornstalks, brewery grains.....	Yes.....	Doors, windows, chutes.....	Yes.....	Fair.....	Tubular well.
Hay, ensilage, gluten, bran.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Silage, hay, gluten, beet pulp.....	Yes.....	Doors, windows.....	Fair.....	Yes.....	Tubular well.
Cornfodder, hay, corn, oats.....	Fair.....	Doors, windows.....	Fair.....	Yes.....	Tubular well.
Cornfodder, hay, corn, oats.....	Yes.....	Doors, windows.....	Fair.....	Yes.....	Tubular well.
Ensilage, pasture, gluten, dairy feed.....	No.....	Doors, windows.....	Fair.....	Yes.....	Tubular well.
Cornstalks, straw, hay, corn, oats.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Open well.
Straw, cornfodder, corn, oats.....	Fair.....	Doors, windows.....	No.....	Fair.....	Tubular well.
Hay, ensilage, pasture, corn.....	No.....	Doors, windows.....	No.....	Yes.....	Tubular well.
Ensilage, hay, bran, dairy feed.....	Fair.....	Doors, windows, chutes.....	Fair.....	Yes.....	Tubular well.
Hay, pasture, oats, corn.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Hay, ensilage, corn, oats, gluten.....	Fair.....	Doors, windows.....	Yes.....	Fair.....	Tubular well.
Ensilage, cornfodder, gluten, bran.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	.....
Cornfodder, hay, pasture, corn, oats.....	Yes.....	Doors, windows.....	Yes.....	No.....	Tubular well.
Cornstalks, bran.....	No.....	Doors, windows.....	No.....	Fair.....	Tubular well.
Cornfodder, hay, ensilage, corn.....	No.....	Doors, windows.....	Yes.....	Fair.....	Tubular well.
Hay, oats, corn.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Cornmeal, bran, hay.....	Fair.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Hay, pasture, gluten, dairy feed.....	No.....	Doors, windows.....	No.....	Yes.....	Tubular well.
Cornstalks, corn, oats.....	Fair.....	Doors, windows.....	Fair.....	Yes.....	Tubular well.
Ensilage, alfalfa hay, corn, oats.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Ensilage, hay, corn, oats.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Cornfodder, hay, pasture, corn.....	No.....	Doors, windows.....	No.....	Fair.....	Tubular well.
Cornfodder, hay, oats, rye, corn.....	Fair.....	Doors, windows.....	No.....	Yes.....	Tubular well.
Cornfodder, straw, hay.....	Yes.....	Doors, windows.....	Fair.....	Yes.....	Tubular well.
Hay, ensilage, oats, gluten.....	Yes.....	Doors, windows.....	Yes.....	Yes.....	Tubular well.
Cornfodder, ensilage, corn, oats.....	Yes.....	Doors, windows.....	Fair.....	Yes.....	Tubular well.
Cornstalks, hay, corn, oats.....	Yes.....	Doors, windows.....	Fair.....	Yes.....	Tubular well.
Ensilage, hay, corn, oats.....	Yes.....	Doors, windows.....	Yes.....	No.....	Tubular well.
Ensilage, hay, gluten, bran, corn.....	Yes.....	Doors, windows.....	Yes.....	No.....	Tubular well.
Cornstalks, ensilage, corn, oats.....	Fair.....	Doors, windows.....	Fair.....	Fair.....	Tubular well.
Ensilage, cottonseed, corn, oats.....	Yes.....	Doors, windows.....	Yes.....	.....	Tubular well.

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Breed.
Bay County, June:					
John M. Arnold.....	Bay City.....	John M. Meyer.....	11	11	Graded.....
Albert Ashley.....	Bay City.....	Grocery stores.....	13	12	Graded.....
Seth Babcock.....	Bay City.....	G. G. McGinty.....	28	23	Graded.....
G. Batzer.....	Bay City.....	Mrs. Ida Giex.....	9	9	Graded.....
Samuel Brock.....	Bay City.....	Henry Beason.....	28	23	Holsteins.....
Charles Engle.....	Bay City.....	Ida Giex.....	2	2	Graded.....
Geo. Englehardt.....	Bay City.....	Geo. Englehardt.....	7	6	Graded.....
John Gang.....	Bay City.....	Geo. Englehardt.....	6	6	Graded.....
Thomas Garn.....	Bay City.....	Thomas Garn.....	24	21	Graded.....
James Gleason.....	Bay City.....	G. C. Hubler.....	18	16	Graded.....
L. Goets.....	Bay City.....	Gist Grocery Store.....	13	11	Graded.....
J. B. Gracey.....	Bay City.....	Herman Schults.....	2	2	Graded.....
Roland Gracey.....	Bay City.....	O. F. Meiselbach.....	5	4	Graded.....
James & John Harbourn.....	Bay City.....	James & John Harbourn.....	24	21	Graded.....
Christ Heitig.....	Bay City.....	Fred Menton.....	4	4	Graded.....
Frank Herbst.....	Bay City.....	Frank Herbst.....	5	5	Graded.....
Geo. M. Meyer.....	Bay City.....	Geo. M. Arnold.....	8	8	Graded.....
G. W. Morris.....	Bay City.....	D. A. Oakes.....	16	15	Graded.....
Herman Norenko.....	Bay City.....	Herman Schults.....	10	8	Graded.....
James H. Potter.....	Bay City.....	James H. Potter.....	14	12	Graded.....
Albert Peglow.....	Bay City.....	Charles Friebe.....	11	9	Graded.....
Fred Reichle.....	Bay City.....	Herman Schults.....	11	9	Graded.....
Ed. Schuman.....	Bay City.....	G. C. Wubler.....	18	16	Graded.....
Otto Schubach.....	Bay City.....	.....	25	25	Graded.....
John Schwab.....	Bay City.....	W. F. Reid.....	19	18	Graded.....
Peter S. Smith.....	Bay City.....	W. F. Reid.....	13	12	Graded.....
B. Tim.....	Bay City.....	B. Tim.....	5	4	Graded.....
Wm. Tomhale.....	Bay City.....	Geo. Henderson.....	12	12	Graded.....
C. C. Underwood.....	Bay City.....	H. Schults.....	6	5	Graded.....
L. Vanderbilt.....	Bay City.....	H. Schults.....	17	16	Graded.....
Henry Wegner.....	Bay City.....	G. Gustavson.....	12	10	Graded.....
L. Warren.....	Bay City.....	.....	20	20	Graded.....
Geo. Weber.....	Bay City.....	Wm. Cuthbert.....	9	7	Graded.....
Wm. P. Weber.....	Bay City.....	N. G. Niedzielski.....	13	11	Graded.....
F. M. Weidman.....	Bay City.....	Mrs. Ida Giex.....	4	4	Graded.....
James Wilcox.....	Bay City.....	J. B. Stevens.....	19	18	Graded.....
James R. Wilder.....	Bay City.....	David Nelson.....	25	18	Holstein.....
Paul Wispinlner.....	Bay City.....	Herman Schults.....	12	12	Holstein.....
Clinton County, June:					
O. L. Angel.....	Lansing.....	Morrison Bros.....	10	7	Mixed.....
R. J. Boughner.....	Lansing.....	E. S. Hedley.....	2	2	Mixed.....
E. S. Boughner.....	Lansing.....	E. S. Hedley.....	6	5	Mixed.....
Paul E. Dunham.....	Lansing.....	Morrison Bros.....	18	16	Mixed.....
John Melvin.....	Lansing.....	Morrison Bros.....	9	9	Mixed.....
Fred Schworer.....	Lansing.....	Morrison Bros.....	16	15	Mixed.....
Wm. Sweet.....	Lansing.....	Morrison Bros.....	8	6	Mixed.....
Wm. Weiland.....	Lansing.....	Morrison Bros.....	8	8	Mixed.....
Eaton County, June:					
F. E. Bancroft.....	Lansing.....	N. H. Winans & Sons.....	6	8	Holstein.....
C. E. Baughman.....	Lansing.....	N. H. Winans & Sons.....	7	5	Mixed.....
M. Blank.....	Lansing.....	N. H. Winans & Sons.....	5	5	Mixed.....
T. C. Carpenter.....	Lansing.....	G. M. Hall.....	4	3	Mixed.....
Geo. Clements.....	Lansing.....	G. M. Hall.....	16	15	Mixed.....

OF DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Pasture.....	No....	Doors.....	No....	Yes....	Drive well.
Pasture.....	Fair....	Windows.....	No....	Yes....	Drive well.
Silage, ground oats.....	Fair....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Doors.....	No....	Yes....	Drive well.
Pasture, brewery grains.....	No....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Doors.....	No....	No....	.....
Pasture.....	No....	Windows.....	No....	Yes....	Drive well.
Pasture.....	No....	Door and windows.....	No....	Yes....	Drive well.
Pasture.....	Yes....	Windows.....	Fair....	Yes....	.....
Pasture.....	No....	Windows.....	No....	Yes....	Drive well.
Pasture.....	No....	Doors.....	No....	Yes....	Drive well.
Pasture.....	No....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Cracks.....	No....	Yes....	Open well.
Pasture.....	No....	Door.....	No....	Yes....	Open well.
Pasture.....	Fair....	Windows.....	No....	Yes....	Drive well.
Pasture.....	Yes....	Doors.....	Yes....	Yes....	.....
Pasture.....	Yes....	Windows.....	Yes....	Yes....	Open well.
Corn meal, oats, bran.....	Yes....	Windows.....	Yes....	Yes....	Drive well.
Brewery grains, oats.....	Yes....	Windows.....	Yes....	Yes....	Open well.
Pasture.....	Yes....	Windows.....	Fair....	Yes....	Drive well.
Pasture.....	Yes....	Windows.....	No....	Yes....	Drive well.
Pasture, brewery grains.....	Yes....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	Yes....	Windows.....	Fair....	Yes....	Drive well.
Corn meal, bran, beet pulp.....	Yes....	Windows.....	Yes....	Yes....	.....
Pasture.....	No....	Door.....	No....	Yes....	.....
Pasture.....	Yes....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Cracks in walls.....	No....	Yes....	Drive well.
Brewery grains.....	Yes....	Windows.....	Fair....	Yes....	Drive well.
Pasture.....	Yes....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Doors.....	No....	Yes....	.....
Pasture.....	No....	Windows.....	Yes....	Yes....	Drive well.
Brewery grains.....	No....	Doors and windows.....	No....	Yes....	Drive well.
Pasture.....	No....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Windows.....	No....	Yes....	Drive well.
Pasture.....	Yes....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	Medium	Doors.....	No....	Yes....	Drive well.
Pasture.....	No....	Door.....	No....	Yes....	Drive well.
Pasture.....	Medium	Door and windows.....	No....	Yes....	Drive well.
Pasture.....	Fair....	Door and windows.....	No....	Yes....	Drive well.
Pasture.....	Medium	Hay chute.....	Medium	Yes....	Drive well.
Pasture.....	Medium	Hay chute.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Door and windows.....	Medium	Yes....	Drive well.
Pasture.....	Medium	Door and windows.....	Medium	Yes....	Drive well.
Pasture.....	Medium	Hay chute.....	Fair....	Yes....	Drive well.
Pasture.....	Medium	Stairway.....	Fair....	Yes....	Drive well.
Pasture.....	Medium	Hay chute.....	Medium	Yes....	Drive well.
Pasture.....	Yes....	Doors and windows.....	Medium	Yes....	Drive well.
Pasture.....	Yes....	Doors and silo shaft.....	Fair....	Yes....	Drive well.

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Breed.
Eaton County.—Continued.					
F. W. Dibble.....	Lansing	N. H. Winans & Sons	8	8	Mixed
W. S. Esselstyn.....	Lansing	N. H. Winans & Sons	13	12	Mixed
W. H. Foster.....	Lansing	N. H. Winans & Sons	6	6	Mixed
G. G. Johnson.....	Lansing	G. M. Hall	2	2	Mixed
J. T. Krieger.....	Lansing	N. H. Winans & Sons	4	4	Mixed
Fred Lee.....	Lansing	G. M. Hall	5	4	Mixed
Mark Palmer.....	Lansing	N. H. Winans & Sons	5	4	Mixed
W. K. Parker.....	Lansing	N. H. Winans & Sons	4	3	Holsteins
B. B. Roberts.....	Lansing	N. H. Winans & Sons	5	5	Mixed
C. Schaibly.....	Lansing	N. H. Winans & Sons	9	9	Holsteins
E. Stoll.....	Lansing	N. H. Winans & Sons	14	12	Holsteins
S. H. Underhill.....	Lansing	G. M. Hall	4	4	Mixed
Ingham County, June:					
J. J. Bentley.....	Lansing	W. P. Fuller	6	5	Mixed
W. L. Brown.....	Lansing	G. M. Hall	1	1	Mixed
Gibson Burrell.....	Lansing	G. M. Hall	12	12	Mixed
Alonso Clark.....	Lansing	E. S. Hedley	2	1	Mixed
C. A. Clements.....	Lansing	N. H. Winans & Sons	13	12	Holsteins
Franklin H. Clements.....	Lansing	W. P. Fuller	5	4	Mixed
Horace Cooledge.....	Lansing	A. Schweigert	3	2	Mixed
Henry Dieterle.....	Lansing	N. H. Winans & Sons	25	13	Mixed
G. C. Fuller.....	Lansing	G. M. Hall	1	1	Mixed
S. H. Hicks & Son.....	Lansing	Self	22	20	Mixed
M. S. Johnson.....	Lansing	W. P. Fuller	5	5	Mixed
H. T. Lorens.....	Lansing	Self	24	22	Mixed
Chris Mans.....	Holt	John Rehm	9	7	Mixed
John McCurdy.....	Mason	Self	23	23	Mixed
Morse Bros.....	Lansing	E. S. Hedley	10	9	Mixed
I. V. Pyle.....	Lansing	W. P. Fuller	5	5	Mixed
O. V. Reeves.....	Lansing	G. M. Hall	8	8	Mixed
M. Rehm.....	Lansing	John Rehm	4	4	Mixed
Geo. L. Reynolds.....	Lansing	W. P. Fuller	1	1	Mixed
A. Schweigert.....	Lansing	Self	7	6	Mixed
Bert Slocum.....	Lansing	F. G. Free	13	10	Mixed
J. L. Snyder.....	Lansing	Self	17	15	Mixed
R. E. Taylor.....	Lansing	G. M. Hall	1	1	Mixed
H. H. Walker.....	Lansing	E. S. Hedley	9	8	Mixed
Lenawee County, June:					
F. A. Grabner.....	Adrian	Retails	3	3	Graded
Saginaw County, June:					
Otto Bender.....	Saginaw	Otto Bender	9	9	Graded
J. W. Dietrich.....	Saginaw	Geo. Kruger	13	12	Graded
Fred Gettoco.....	Saginaw		8	8	Graded
Robert Grashansen.....	Saginaw	Clarence Riedel	9	9	Graded
Wm. Prueter.....	Saginaw	F. A. Prueter	7	7	Graded
Fred Riehes.....	Saginaw		7	7	Graded
L. Schneler.....	Saginaw		6	6	Graded
Herman Somer.....	Saginaw	F. A. Prueter	5	5	Graded
St. Clair County, June:					
Joseph Baker.....	Port Huron	Joseph Baker	17	14	Graded
Geo. Banan.....	St. Clair	Geo. Banan	17	14	
F. H. Beach.....	Port Huron	F. H. Beach	30	24	Graded
Ira Chase.....	Port Huron	Wm. Gireson	20	16	Graded

OF DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Pasture.....	Yes....	Doors and windows....	Medium	Yes....	Drive well.
Pasture.....	Medium	Doors and windows....	No....	Medium	Drive well.
Pasture.....	Medium	Doors and windows....	Fair....	Yes....	Drive well.
Pasture.....	Medium	Doors and windows....	Fair....	Yes....	Drive well.
Pasture.....	Fair....	Hay chute.....	Medium	Yes....	Drive well.
Pasture.....	Yes....	Door and windows....	Fair....	Yes....	Drive well.
Pasture.....	No....	Door and cracks....	No....	Yes....	Drive well.
Pasture.....	Yes....	Hay chute.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Door and windows....	Fair....	Yes....	Drive well.
Pasture.....	Medium	Hay chute.....	Yes....	Yes....	Drive well.
Pasture.....	Medium	Open stairway....	Fair....	Yes....	Drive well.
Pasture.....	Yes....	Hay chute.....	No....	Yes....	Drive well.
Pasture.....	No....	Doors and windows....	Fair....	Yes....	Drive well.
Pasture.....	Medium	Doors and windows....	Fair....	Yes....	Drive well.
Pasture.....	Medium	Hay chute.....	Fair....	Medium	Drive well.
Pasture.....	No....	Door and windows....	No....	Yes....	Drive well.
Pasture.....	Medium	Door and windows....	Medium	Yes....	Drive well.
Pasture.....	Medium	Door and cracks....	No....	Yes....	Drive well.
Pasture.....	No....	Door and windows....	No....	Yes....	Drive well.
Pasture.....	Yes....	Hay chute.....	Fair....	Yes....	Drive well.
Pasture.....	Medium	Door and windows....	No....	Yes....	Drive well.
Pasture.....	Medium	Door and windows....	Medium	Yes....	Drive well.
Pasture.....	No....	Cracks, door, stairway....	No....	Yes....	Drive well.
Pasture.....	Yes....	Hay chute.....	Yes....	Yes....	Drive well.
Pasture.....	No....	Cracks and silo shaft....	No....	Yes....	Drive well.
Pasture.....	No....	Door and windows....	No....	Yes....	Drive well.
Pasture.....	Medium	Hay chute.....	No....	Yes....	Drive well.
Pasture.....	Yes....	Hay chute.....	No....	Yes....	Drive well.
Pasture.....	Medium	Doors and windows....	No....	Yes....	Drive well.
Corn and oats, pasture.	Yes....	Doors and windows....	Yes....	Yes....	Drive well.
Pasture.....	No....	Cracks.....	No....	Yes....	Drive well.
Pasture.....	Medium	Door.....	No....	Yes....	Drive well.
Pasture.....	Medium	Door and window....	Fair....	Yes....	Drive well.
Pasture.....	Medium	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	Medium	Door and window....	No....	Yes....	Drive well.
Pasture.....	No....	Door and window....	No....	Yes....	Drive well.
Pasture.....	No....	Doors and windows....	Fair....	Fair....	
Pasture.....	Yes....	Windows.....	Fair....	Yes....	Drive well.
Pasture, corn meal, oats.	Yes....	Doors and windows....	No....	Yes....	Drive well.
Pasture.....	No....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	Yes....	Windows.....	Yes....	Yes....	Drive well.
Pasture.....	Yes....	Doors.....	No....	Yes....	Open well.
Pasture.....	Yes....	Doors.....	No....	Yes....	Open well.
Pasture.....	No....	Door.....	No....	Yes....	Open well.
Pasture.....	No....	Door.....	No....	Yes....	Drive well.
Bran, gluten feed.	Yes....	Windows.....	No....	Yes....	
Pea meal.	No....	Windows.....	Yes....		Drive well.
Pea meal.	No....	Doors.....	No....	No....	
Grass.	Yes....	Windows.....	Yes....	Yes....	

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Breed.
<i>St. Clair County.—Continued.</i>					
George Fair.....	Port Huron.....	Geo. Fair.....	11	9	Graded.....
Otto Limburg.....	Port Huron.....	Otto Limburg.....	7	7	Graded.....
Herman Limburg.....	Port Huron.....	Otto Limburg.....	18	12	Holsteins.....
Loris Bros.....	St. Clair.....	Loris Bros.....	18	18	Graded.....
Wm. Horvath.....	Port Huron.....	Wm. Horvath.....	22	19	Graded.....
Walter Morris.....	Abbotsford.....	Port Huron Creamery Co. . .	12	12	Graded.....
Walter Morrill.....	St. Clair.....	Wm. Wriest.....	7	6	Graded.....
Max Riets.....	St. Clair.....	Wm. Wriest.....	11	10	Graded.....
D. Shain.....	Port Huron.....	Willard Stontenbury.....	19	17	Graded.....
Mel Spencer.....	Port Huron.....	.....	34	27	Graded.....
<i>Wayne County, June:</i>					
L. R. Hawker.....	Denton.....	Towar Creamery Co.	16	15	Graded.....

OF DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Grass.....	No.....	Windows.....	Fair....	Yes....	Drive well.
Grass.....	No.....	Windows.....	No.....	.....	Drive well.
Grass.....	No.....	Windows.....	Yes....	Fair....	Drive well.
Grass.....	Fair....	Windows.....	Yes....	.....	Drive well.
Cottonseed, grass.....	Yes....	.....	No.....	Yes....	.....
Grass.....	Yes....	.....	No.....	.....	Drive well.
Grass.....	No.....	Cracks.....	No.....	.....	Drive well.
Grass.....	No.....	Windows.....	Fair....	.....	Drive well.
Cornmeal, grass.....	No.....	Windows.....	Fair....	Yes....	.....
Bran, cottonseed.....	No.....	Cracks.....	Fair....	Yes....	.....
Pasture.....	No.....	Doors and windows....	No.....	Fair....	Tubular well.

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary conditions.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Alpena, Mich., May:											
Hall & Aitkins.....	95	95	100	90	100	480	Excellent.....				
Wm. Beaudoin.....	80	60	85	75	30	330	Poor.....				
John Duby.....	45	15	60	75			Poor.....				
Mrs. T. Ellison.....	50	65	90	75	75	355	Poor.....				
G. Gagnon.....	65	55	80	80	50	330	Poor.....				
John Mainville.....	80	55	75	75	15	300	Poor.....				
I. Pamerleau.....	75	60	70	75	50	330	Poor.....				
Ernest Welke.....	100	100	90	95	90	475	Good.....				
Bay City, May:											
W. A. Cameron.....	90	95	90	95	100	470	Good.....				
Frank Culver.....	95	95	90	95	100	475	Good.....				
James Dun.....	90	95	90	95	100	470	Good.....				
Theo. Meyer.....	85	95	90	85	90	445	Medium.....				
B. Voss.....	90	55	90	80	95	410	Medium.....				
Philip Wagner.....	85	55	80	70	95	385	Poor.....				
Crystal Falls, May:											
Wm. Poyseor & Sons.....	100	100	90	95	90	475	Good.....	4.6	33	13.77	9.17
Harvey, May:											
M. A. Quandt.....	75	75	80	95	95	420	Medium.....	4.6	33	13.77	9.17
Holt, May:											
Fred A. Palmer.....	75	80	70	78	90	393	Poor.....	4.6	30	12.02	7.42
W. & I. Weigman.....	78	60	70	83	90	381	Poor.....	3.3	29	11.21	8.91
Hubbard Lake, May:											
James Bowden.....	90	65	70	80	80	385	Poor.....				
Geo. Stovel.....	90	65	85	80	90	410	Medium.....				
Iron Mountain, May:											
Alex. Anderson.....	85	90	85	95	65	420	Medium.....	4.6	30	13.02	8.42
Jos. Mongren.....	90	90	85	95	80	440	Medium.....	3.6	30.5	11.94	8.34
Geo. Nicolat.....	80	80	70	75	75	390	Poor.....				
August Wikman.....	90	90	80	95	70	425	Medium.....	4.0	32.5	12.9	8.92
Iron River, May:											
H. N. Minekler.....	85	60	80	80	100	340	Medium.....	5	32.5	14.12	9.12
Lansing May:											
L. Acker.....	80	80	70	78	100	408	Medium.....	4	32	12.80	8.80
Chas. C. Allen.....	87	65	75	78	100	405	Medium.....	3	30.5	11.22	8.22
Otto Andrews.....	88	88	77	78	80	411	Medium.....	3.7	32	12.44	8.74
G. F. Balduf.....	93	92	82	75	87	429	Medium.....	3.4	31	11.83	8.43
T. E. Balleau.....	80	55	20	78	85	318	Poor.....	3.2	30	11.34	8.14
Fred Baughart.....	88	75	80	80	90	413	Medium.....	4.3	30	12.66	8.36
Henry Bollman.....	85	81	80	78	79	403	Medium.....	3.8	31	12.43	8.63
H. D. Box.....	87	82	75	78	85	407	Medium.....	3.2	31.5	11.71	8.51
J. Burrell.....	90	91	79	78	87	425	Medium.....	3.5	31	11.95	8.45
Henry Carr.....	97	100	85	85	94	461	Good.....	3.4	32	12.08	8.68
J. B. Cates.....	85	76	81	78	85	405	Medium.....	3.6	31.5	12.195	
E. J. Collins.....	85	74	64	78	85	386	Poor.....	3.6	32	12.32	8.72
F. E. Corbin.....	89	91	80	79	90	429	Medium.....	3.03	30	11.70	8.20
E. Costigan.....	87	77	81	79	87	411	Medium.....	4.3	31	13.03	8.73
J. B. DeLaney.....	86	77	45	78	80	366	Poor.....	3.3	31	11.71	8.41

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary conditions.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Lansing.—Continued:											
J. R. Dunlap.	83	75	75	85	75	393	Medium	5.1	31	13.87	8.77
J. F. Elliott.	95	93	85	85	90	448	Medium	3.6	32	12.44	8.84
W. J. Epley.	85	73	79	78	85	400	Medium	3.5	31	11.95	8.45
Arthur Everett.	91	67	85	83	90	416	Medium	3.6	32	12.32	9.72
Herbert Everett.	90	88	83	80	90	431	Medium	4.4	33	13.53	9.13
Charles Everett.	95	93	83	80	96	447	Medium	3.7	32	12.44	8.74
P. R. Feiske.	92	92	79	82	87	432	Medium	3.8	30	12.06	8.26
R. D. Felton.	84	69	78	79	85	395	Poor	3.8	31	12.31	8.51
August Ferley.	87	68	75	83	95	408	Medium	4.1	30	12.42	8.32
Emmett Foster.	60	58	81	83	89	371	Poor	3.0	31.5	11.47	8.47
W. A. Foster.	90	89	79	82	92	432	Medium	3.6	31.5	12.19	8.59
F. W. Foster.	85	83	72	93	87	420	Medium	3.2	31.5	11.71	8.51
J. W. Frank.	93	96	81	83	95	448	Medium	3.1	30	11.22	8.12
Wm. Froetert.	82	65	75	78	82	382	Poor	3.8	32	12.56	8.56
I. S. Haag.	83	70	75	83	90	401	Medium	3.5	29	11.45	7.95
C. W. Hazelton.	88	85	85	85	92	435	Medium	4.2	29.5	12.41	8.21
H. W. Helmsker.	86	89	65	80	85	405	Medium	3.7	31	12.19	8.49
E. J. Himmelberger.	93	88	71	80	89	421	Medium	4.3	31	12.91	8.61
W. T. Holloway.	89	79	79	84	87	418	Medium	3.4	31	11.83	8.43
C. C. Holmes.	85	80	80	85	95	425	Medium	3.4	32	12.08	8.68
Nyron S. Holmes.	78	63	75	83	85	384	Poor.	3.5	31	11.95	8.45
J. H. Hullett.	85	72	25	78	80	310	Poor.	3.7	32	12.44	8.74
G. J. Hume.	81	74	83	79	87	404	Medium	3.3	30.5	11.58	8.28
John Huxtable.	88	71	76	82	87	404	Medium	3.6	31	12.07	8.47
E. D. Jessup.	84	60	79	84	96	403	Medium	4.4	30	12.78	8.38
Charles Kent.	83	63	81	78	90	395	Poor.	3.8	31	12.31	8.51
Wm. Kurts.	88	75	69	78	77	387	Poor.	3.7	30	11.94	8.24
Chas. H. Kurts.	85	75	78	78	85	401	Medium	3.6	31.5	12.19	8.59
August Kurts.	98	96	80	85	95	454	Good.	4	30	12.30	8.30
Geo. D. McKim.	85	79	55	79	87	385	Poor.	3.7	30.5	12.06	8.36
Robert McKim.	78	75	85	80	85	403	Medium	5.7	32	14.84	9.14
Frank McKim.	88	83	84	79	93	427	Medium	4.4	31.5	13.15	8.77
George Miller.	86	76	81	79	91	413	Medium	3.8	32	12.56	8.75
Roy B. Moore.	86	70	75	80	100	411	Medium				
Seymour North.	80	80	85	85	90	420	Medium	3.7	32	12.44	8.74
L. O'Leary.	90	93	70	78	88	419	Medium	4.2	30	12.54	8.34
O. H. Philo.	84	88	81	78	90	421	Medium	4	30	12.55	8.55
D. G. Rapp.	95	96	85	85	96	457	Good.	3.2	30	11.46	8.26
L. W. Reeves.	85	78	71	82	82	398	Poor.	3.7	31	12.79	9.09
A. Reeve.	93	72	80	78	84	407	Medium	3.6	31	12.07	8.47
Andrew Rieley.	87	92	85	79	89	432	Medium	3.4	31	211.83	8.43
Chas. Rusk.	88	90	80	78	85	421	Medium	3.8	30	12.18	8.38
John Schneeberger.	93	73	76	78	87	407	Medium	4	31.5	11.87	7.87
Alfred Schoeler.	88	78	82	78	87	413	Medium	3.6	31	12.07	8.47
Julius Semran.	88	72	45	78	85	368	Poor.	3.7	31.5	12.31	8.615
E. C. Sharp.	83	88	78	77	80	404	Medium	3.6	31.5	12.19	8.59
Fred E. Shubel.	90	95	93	80	91	449	Medium	4	31	12.55	8.55
A. Simon.	90	87	81	78	89	425	Medium	3.5	30	11.70	8.20
Henry Sindinger.	92	95	85	85	87	444	Medium	4	30.5	12.42	8.42
Myron Smith.	93	80	74	78	85	410	Medium	3.3	31	11.71	8.41
C. G. Steifel.	87	96	79	83	87	432	Medium	3.4	32	12.06	8.66
A. Storts.	77	74	65	78	87	381	Poor.	3.6	31	12.07	8.47
Charles Tank.	93	82	82	78	85	420	Medium	4.1	32	12.92	8.82
E. J. Vaughn.	82	72	70	78	85	387	Poor.	3.8	31	12.31	8.51
George Waite.	73	28	70	80	85	336	Poor.	4.8	31	13.51	8.71

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary conditions.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Lansing.—Concluded:											
Louis Weiber.....	87	86	74	78	85	410	Medium.....	3.7	32	12.44	8.74
Mrs. Mary Weiland.....	86	70	78	78	87	399	Poor.....	3.2	32	11.84	8.64
Arthur Wimple.....	80	80	62	88	95	405	Medium.....	4.2	32.5	13.24	9.04
C. A. Winters.....	94	82	76	82	87	421	Medium.....	3	31.5	11.47	8.47
Frank Young.....								3.2	32	11.84	8.64
Marquette, May:											
H. Bergh.....	85	70	90	90	95	430	Medium.....	4.8	31.5	13.63	8.83
A. A. Fassbinder.....	80	85	85	95	95	440	Medium.....				
Louis Guelff.....	80	85	85	95	95	440	Medium.....				
C. Jensen.....	90	100	85	95	95	465	Good.....				
Peter Johnson.....	90	95	85	95	95	465	Good.....				
C. H. King.....	90	90	85	95	100	460	Good.....	4.6	32	13.52	8.92
Trefle Largeness.....	85	90	85	95	85	440	Medium.....	4.4	28	12.36	7.96
Chas. Nix.....	85	90	90	95	95	455	Good.....	4	29	12.05	8.05
Peter Stuer.....	80	70	80	95	95	420	Medium.....	4.4	32	13.28	9.88
F. H. Vandenboom.....	95	95	95	100	100	485	Excellent.....	4.8	32	13.76	8.96
Norway, May:											
Asselin Estate.....	85	75	80	95	100	435	Medium.....				
Port Huron, May:											
M. W. Mills.....	90	55	85	60	50	340	Poor.....				
Port Huron Creamery Co.....	100	60	70	65	35	330	Poor.....				
Republic, May:											
Butt Barton.....	85	85	80	85	65	400	Medium.....	4.8	30	13.26	8.46
Saline, May:											
Chas. Alber.....	80	83	73	68	85	389	Poor.....				
Ypsilanti, May:											
Bert Ainsworth.....	85	96	85	85	100	451	Good.....				
Alonse Austin.....	83	89	76	74	88	410	Medium.....	3.8			
W. E. Beard.....	82	77	65	76	91	391	Poor.....	4			
F. S. Begole.....	86	93	77	79	93	428	Medium.....	4.6			
R. J. Bird.....	88	92	77	81	95	433	Medium.....				
Albert Foerester.....	81	70	73	73	80	377	Poor.....				
H. L. Gabel.....	92	73	72	71	91	399	Medium.....				
John Gault.....	86	74	86	91	91	428	Medium.....	5.2			
Thomas Knight.....	80	70	65	70	82	367	Poor.....				
Fred Krumrei.....	74	75	61	83	80	373	Poor.....				
Henry Laffin.....	80	83	74	72	80	389	Poor.....	4			
Dennis Long.....	91	93	80	76	97	437	Medium.....				
John Maubetsch.....	91	93	83	75	100	442	Medium.....				
Dwight Peck.....	85	75	77	71	82	390	Poor.....				
Chas. Peck.....	84	91	76	76	95	422	Medium.....				
M. M. Read.....	91	90	78	75	96	430	Medium.....	4.5			
Chas. S. Roberts.....	84	80	75	72	90	401	Medium.....				
Scotney Bros.....	91	85	80	71	97	424	Medium.....				
O. K. Wales.....	89	91	79	81	95	435	Medium.....				
Abbottford, June:											
Walter Morris.....	25	55	85	80	85	330	Poor.....				

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary conditions.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Bay City, June:											
John M. Arnold.....	60	35	45	75	45	260	Poor.....				
Albert Ashley.....	75	80	35	95							
S. Babcock.....	85	65	35	95	95	425	Medium.....				
Gottlieb Batsar.....	55	35	90	95	95	360	Poor.....				
Charles Engles.....	55	50	45	55			Poor.....				
Geo. Englehardt.....	80	80	35	95	100	440	Medium.....				
John C. Gang.....	75	85	35	95	85	425	Medium.....				
Thomas Garn.....	85	70	35	95	100	435	Medium.....				
James Gleason.....	65	75	65	85	45	335	Poor.....				
Leonard Goetz.....	30	25	35	95	75	310	Poor.....				
Roland Gracey.....	80	75	35	90	20	350	Poor.....				
G. B. Gracey.....	70	80	35	95	20	350	Poor.....				
Christ Heiting.....	35	50	35	95	65	330	Poor.....				
Frank Herbet.....	60	45	35	90	45	325	Poor.....				
Geo. M. Meyer.....	80	80	35	80	55	380	Poor.....				
G. W. Moris.....	100	85	35	95	100	465	Good.....				
Albert Pegdow.....	85	95	35	90	100	455	Good.....				
James Potter.....	100	85	35	95	100	465	Good.....				
Fred Reichle.....	95	90	35	95	85	450	Good.....				
Ed. Schuman.....	100	100	35	95	100	480	Excellent.....				
Otto Schubach.....	100	95	35	95	95	470	Good.....				
John Schwab.....	85	70	55	85	45	340	Poor.....				
Peter S. Smith.....	95	90	35	90	100	460	Good.....				
Barnard Tim.....	60	55	35	90	85	375	Poor.....				
William Tomhale.....	80	100	65	80	85	410	Medium.....				
C. C. Underwood.....	70	75	35	75	20	325	Poor.....				
Herman Unenke.....	95	100	35	95	85	460	Good.....				
Lewis Vanderbilt.....	100	95	75	95	20	385	Poor.....				
James & John Warbourn.....	90	80	40	85	35	380	Poor.....				
Lewis Warren.....	55	65	35	85	100	390	Poor.....				
George Weber.....	75	70	90	95	95	425	Medium.....				
William P. Weber.....	70	65	35	95	85	400	Medium.....				
Henry Wegner.....	100	100	35	95	110	490	Excellent.....				
F. W. Weidman.....	95	100	35	95	95	470	Good.....				
James Wilcox.....	75	65	35	85	95	405	Medium.....				
James R. Wilder.....	95	100	35	95	100	475	Good.....				
W. A. Wilder.....	90	85	25	95	85	380	Poor.....				
Paul Weispintner.....	80	70	35	95	85	415	Medium.....				
Holt, June:											
Chris Mans.....	75	75	81	78	89	398	Poor.....	4	31	12.55	8.55
M. Rehm.....	93	81	83	79	89	425	Medium.....	4.4	30	12.78	8.38
Ironwood, June:											
K. Gunderson.....	80	75	90	95	65	405	Medium.....				
John Johnson.....	90	90	35	95	60	420	Medium.....	4.2	30.5	12.64	8.44
Fred Johnson.....	85	85	90	95	65	420	Medium.....	4.8	30	13.26	8.46
Christian Johnson.....	90	85	35	95	55	420	Medium.....	4	31.5	12.65	8.65
C. E. Johnson.....	80	80	35	95	100	440	Medium.....	4.5	32	13.40	8.90
Adrick Mikkola.....	85	70	90	95	70	410	Medium.....	4.6	31	13.27	9.67
Richard Tretheway.....	55	60	95	95	75	380	Poor.....				
Lake Linden, June:											
Jos. Hennecke.....	95	100	90	95	100	490	Excellent.....	5.2	33	14.49	9.29
Fred Kappler.....	65	75	90	100	80	410	Medium.....	4.8	32	13.76	8.96
Thomas Lahait.....	80	85	90	95	90	440	Medium.....	5	31	13.75	8.75

INSPECTION OF CITY MILK SUPPLY.

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								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Lansing, June:											
O. L. Angel.....	80	91	81	78	87	417	Medium.....	4	31	12.55	8.55
F. E. Bancroft.....	81	78	81	76	87	403	Medium.....	3.3	30	11.46	8.76
C. E. Baughman.....	88	83	82	78	89	420	Medium.....	3.5	32.5	12.32	8.82
J. J. Bentley.....	80	88	67	78	87	370	Poor.....	4.4	31	13.03	8.63
M. Blank.....	87	85	81	76	94	423	Medium.....	3.4	31	11.83	8.43
E. S. Boughner.....	82	83	82	78	87	412	Medium.....	5.8	29	14.21	8.41
R. J. Boughner.....	83	85	80	78	72	398	Poor.....	4.2	31	12.79	8.59
W. L. Brown.....	90	85	82	78	89	424	Medium.....	3.2	32.5	11.96	8.76
Gibson Burrell.....	79	81	77	78	87	402	Medium.....	3.5	31	11.95	8.45
T. C. Carpenter.....	92	76	81	79	85	413	Medium.....	3.6	32	12.32	8.72
Alonso Clark.....	82	77	75	77	75	386	Poor.....				
Franklin Clement.....	94	78	85	90	89	435	Medium.....	4	30.5	12.42	8.425
C. A. Clement.....	92	76	80	76	87	411	Medium.....	3.6	30	11.82	8.22
George Clement.....	85	76	78	78	87	404	Medium.....	3.6	30	11.82	8.22
Horace Cooleage.....	80	86	80	78	87	411	Medium.....	3.6	31.5	11.47	8.47
Henry Deiterle.....	86	92	81	76	94	429	Medium.....	3.7	31	12.29	8.59
F. W. Dibble.....	87	89	81	76	87	420	Medium.....	3.3	31	11.71	8.41
Paul E. Dunham.....	82	83	70	76	87	398	Poor.....	4.6	30	13.02	8.42
W. S. Esselstyn.....	84	54	80	76	87	381	Poor.....	4.1	30.5	12.54	8.445
W. H. Foster.....	86	83	84	76	87	416	Medium.....	3.6	31.5	12.19	8.59
G. C. Fuller.....	80	79	81	78	89	416	Medium.....	5.6	30	13.22	7.62
S. H. Hicks & Son.....	91	89	82	85	90	437	Medium.....	3	31.2	11.40	8.40
M. S. Johnson.....	86	74	81	78	87	399	Poor.....	4	32	12.80	8.80
G. G. Johnson.....	86	86	84	79	89	424	Medium.....	3.6	31.5	12.19	8.59
J. T. Krieger.....	90	66	78	78	87	399	Poor.....	3.2	29.5	11.215	8.015
Fred Lee.....	86	84	80	79	89	418	Medium.....	3.6	31.5	12.195	8.595
H. T. Lorens.....	85	94	85	85	90	449	Medium.....	4.4	32.5	13.40	9.005
John Melvin.....	86	83	74	78	85	406	Medium.....	4.5	29.5	12.77	8.275
Morse Bros.....	83	90	81	78	87	419	Medium.....	3.5	31	11.95	8.45
Mark Palmer.....	55	40	81	76	85	387	Poor.....	3.7	31.5	12.31	8.615
W. K. Parker.....	94	94	84	85	89	446	Medium.....	4.1	32	12.92	8.82
I. V. Pyle.....	79	92	85	79	89	424	Medium.....	3.6	31	12.07	8.47
O. V. Reeves.....	84	81	81	79	94	419	Medium.....	4.4	30	12.78	8.35
George L. Reynolds.....	79	61	80	78	87	385	Poor.....	4.2	32	13.04	8.84
B. B. Roberts.....	85	71	82	78	87	403	Medium.....	3	31	11.35	8.35
C. Schaibly.....	88	88	82	78	87	423	Medium.....	3.4	30	11.58	8.18
A. Schweigert.....	80	89	84	79	90	422	Medium.....	3.8	31.7	12.45	8.65
Fred Schworer.....	90	71	83	79	87	410	Medium.....	4.4	30	12.78	8.35
Bert Slocum.....	85	79	81	78	89	412	Medium.....	3.6	31.5	12.195	8.59
J. L. Snyder.....	95	90	73	78	87	423	Medium.....	3.8	30.3	12.13	8.33
E. Stoll.....	86	75	81	76	87	405	Medium.....	3.2	30	11.34	8.14
Wm. Sweet.....	87	74	80	78	85	404	Medium.....	3.8	30	12.16	8.36
R. E. Taylor.....	89	78	76	78	87	408	Medium.....	6	30	14.70	8.70
S. H. Underhill.....	84	95	82	79	94	434	Medium.....	4.7	32	13.64	8.94
H. H. Walker.....	83	79	74	78	20	334	Poor.....	4.5	28.5	12.52	8.025
Wm. Weiland.....	88	85	78	78	87	416	Medium.....	3.5	31	11.95	8.45
Mason, June:											
John McCurdy.....	71	66	55	76	85	353	Poor.....	4	31.5	12.67	8.675
Port Huron, June:											
Joseph Bates.....	90	95	75	95	80	435	Medium.....				
F. W. Beach.....	65	80	75	75	90	355	Poor.....				
Ira Chase.....	100	100	80	85	95	480	Good.....				
Geo. Fair.....	70	45	45	80	55	295	Poor.....				
Otto Gimburg.....	40	45	70	75	65	295	Poor.....				

INSPECTION OF CITY MILK SUPPLY.

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								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Port Huron.—Concluded:											
Herman Gimburg.....	90	80	85	80	55	370	Poor.....				
William Howard.....	90	90	90	90	100	460	Good.....				
Dell Shain.....	100	100	80	95	95	470	Good.....				
Moll Spencer.....	90	75	75	90	95	425	Medium.....				
Wesley Urmy.....	85	85	70	90	85	415	Medium.....				
Saginaw, June:											
Otto Bender.....	90	85	65	95	60	395	Poor.....				
J. W. Dietrich.....	85	75	85	95	95	435	Medium.....				
Fred Geitoco.....	90	75	90	95	85	435	Medium.....				
Robert Grashansen.....	100	90	85	95	100	470	Good.....				
William Prueter.....	80	85	85	90	100	440	Medium.....				
Fred Ricker.....	65	100	85	95	100	445	Medium.....				
Lewis Schneier.....	75	85	85	95	85	425	Medium.....				
Herman Sonner.....	70	35	75	95	50	325	Poor.....				
Sidnaw, June:											
W. S. Prickett.....	100	100	95	100	100	495	Excellent.....	5.4	32	14.48	9.08
St. Clair, June:											
Geo. Banon.....	45	35	75	65	45	265	Poor.....				
Goris Bros.....	85	80	85	95	95	440	Medium.....				
Walter Morrill.....	20	40	70	80	55	265	Poor.....				
Mat Riets.....	35	45	85	85	20	270	Poor.....				

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Dairy and Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the laws' regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE.

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it so as to lower or depreciate or injuriously affect its quality, strength or purity;

2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;

4. If it is in imitation of, or is sold under the name of another article;

5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal.

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS.

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name; and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coined name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DAIRY LAWS.

UNWHOLESOME MILK AND CREAM.

Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspectors, that any person is using, selling or furnishing to any skimming station, creamery, cheese factory, condensed milk factory, milk depot, farm dairy, milk dealer, the retail trade, or to any consumer of milk, any impure or unwholesome milk or cream, caused by the unsanitary or filthy condition of the premises where cows are kept, or by the unsanitary or filthy care or handling of the cows, the use of unclean utensils, unwholesome food, or from any other cause, the person so offending shall be notified and warned by the Commissioner, his deputy, or inspectors not to use, sell or furnish such milk or cream at any of the places or to any of the persons above mentioned. A failure to obey such notice and warning and the continued sale of such milk is made a misdemeanor, punishable by fine or imprisonment or both.

SANITARY CONDITION.

Whenever it is determined by the Dairy and Food Commissioner that unsanitary conditions exist in the operation of any skimming station, creamery, cheese factory, condensed milk factory, milk depot, or farm dairy, the proprietor or manager of the same shall be notified and warned by the Commissioner, his deputy or inspectors, to place such skimming station, creamery, etc., in a sanitary condition. A failure to obey such notice and warning is made a misdemeanor, punishable by fine or imprisonment or both.

ADULTERATED MILK.

The removal of the cream or any part thereof, from milk to be sold as pure milk to any manufactory in which milk is used as a material in

the process of production, or in the adulteration of milk by the addition of water, chemicals, preservatives or any other foreign substance is made a misdemeanor and punishable by a fine or imprisonment or both.

REGISTRATION AND REPORT.

All factories, skimming stations or milk depots where milk or cream is received by purchase or otherwise from three or more persons, must register with the Dairy and Food Department, and file an annual report accompanied by a registration fee of five dollars on or before April 1st of each year.

*Supp. 202
203*

Foods and Food Values

**WITH SUGGESTIONS HOW TO REDUCE THE
COST OF LIVING**

Michigan Dairy and Food Department

GILMAN M. DAME
Commissioner

FERN L. SHANNON
State Analyst

JAMES W. HELME
Deputy Commissioner

M. J. SMITH
Chief Clerk

THE VALUE OF FOODS.

Many people fail to realize that the primary use of foods is to supply the body with warmth, energy and the necessary materials for rebuilding such parts of the body as have been worn out in the act of living. The pangs of hunger are simply the outcry of nature that necessary material shall be supplied to repair bodily wastes and furnish fuel to create energy to run the human machine.

When we satisfy the pangs of hunger we are apt to do so without much regard as to the suitability of the food used or its comparative cost with other foods of similar composition.

Years ago the dairyman discovered he must feed a "balanced" ration to the dairy cow; that is, a ration containing a certain amount of "carbohydrates" to furnish the cow with heat and energy, and a certain amount of "protein" to repair the muscular system and produce milk. But the dairyman did not stop here. After examining the composition of different food stuffs suitable for the cow's consumption, he found that "carbohydrates" and "protein" were much more expensive in some foods than in others. He thereupon selected such foods as were the cheapest and yet would "balance" the cows' ration. In other words he selected not only a "balanced" but an economical ration.

THE HIGH COST OF LIVING.

Much discussion is now being had over the high cost of living. The tremendous advance in the prices of nearly all food stuffs has brought much hardship to the masses of people.

Both political parties in their platforms promise investigation and possible relief from the high cost of living. These investigations will be long drawn out and relief, if any, that can be had by legislation will be uncertain and long delayed. The object of this bulletin will be an endeavor to give the consumer immediate partial relief by pointing out the value and price of various food stuffs, their uses in building up the body and the cheapest foods that are available for those purposes. A study of the science of food values and application of the same will effect large reductions in the cost of living.

THE USES OF FOOD CONSTITUENTS.

We have before stated that some foods supplied warmth and energy to the body. These are different kinds of force, one of which can be changed into the other. Many of these foods do not assist in repairing the waste of the body, because they do not contain the necessary elements of which the body is composed; hence the warmth-and-energy foods must be supplemented by foods that contain the materials of which the body is composed. It will be therefore necessary for the proper understanding of the food question to know the composition of the body and the foods necessary for it. The constituents of food are for these purposes divided into five classes: Fat, Carbohydrates, Protein, Mineral matter and water.

Fat is found in animal products such as meat, butter, cheese and milk; also in the oils of the olive and cotton seed and in various nuts. Grains like oats and corn also have considerable fat.

These fats or oils furnish force to the body in the form of heat and energy. A given weight of fat produces more than twice as much energy as the same weight of sugar or starch foods.

If more fat is taken than the system demands, the surplus fat may be stored in the body as fat to serve as a source of heat and energy at some future time if needed.

Fat does not produce muscular tissue but by chemical processes is virtually "burned" in the body to produce power.

Carbohydrates are substances which are so named because they consist of carbon, hydrogen and oxygen. The most common carbohydrates are the sugars such as milk sugar, cane sugar and grape sugar; starches, which are the principal parts of wheat, corn and other cereals and also of vegetables like the potato. Carbohydrates also furnish power and energy to the body like the fats but only about half as much. They may be changed in the body to fat and stored up for future use. Like fat carbohydrates do not produce muscular tissue.

Protein (Pro-te-in) is a name applied to a large class of substances containing nitrogen such as lean meat, the white of eggs, the casein of milk, the gluten of flour and other cereals. Protein in foods is used by the body to repair and grow the muscular tissue. It is the most important of the food stuffs and generally the most expensive to buy. It can also be used for heat and power like the fats and carbohydrates but should not be, as the former are not as expensive.

Mineral matter in food is the ash left after the food is burned. The mineral matter of the body consists of phosphate of lime, of which the bones are composed and compounds of sodium, magnesium, Potassium and iron which are found in the blood and the muscular tissue in small amounts.

Mineral matter occurs more or less in all foods in sufficient quantities for bodily needs so that but little heed may be given it in formulating a balanced ration for human consumption.

Water—more than half the weight of the human body is water. It is absolutely essential to life as it helps perform the processes of digestion, distributes the food material to all parts of the body and maintains the body at a uniform temperature. It is a natural constituent of all foods and being abundant in nature no attention is given to it in formulating a ration.

These different classes of food materials occur combined in nearly all foods, but the relative amount of the different substances varies and occasionally in some foods one is entirely absent.

The average human body contains about 15% fat, 18% protein, carbohydrates 10%, mineral matter 6% and water 60%.

The charts shown in this bulletin give the relative amount of different food constituents in our most common foods.

One term given in the illustrations has not been explained. We have noticed that fat and carbohydrates are actually burned up in the body to produce heat and power. Every fuel gives out a definite quantity of heat when it is burned and the value of the fuel is determined by the amount of heat produced by a pound of it. A "Calory" is the unit for

measuring heat, just as a pound is the unit for measuring weight. A Calory is the amount of heat necessary to raise the temperature of one liter of water one degree.

The tables following the charts are tabulated from them, and show in a better form the relative amount of the various constituents in our common foods. It will be noticed that vegetable foods are generally high in carbohydrates and animal foods high in fats, while the amounts of protein in both animal and vegetable foods may run as high as 25%. Different foods vary greatly in this respect.

It has been estimated that a man at hard work requires $3\frac{1}{3}$ ounces of protein, $3\frac{1}{3}$ ounces of fat and $17\frac{1}{3}$ ounces of carbohydrates to meet the demands of the system each day.

The last two tables have been arranged to show the cheapest source of protein and the cheapest source of power and energy in the foods mentioned in the previous tables.

The first table shows the amount of protein in each of these different foods that can be furnished for one cent, and the foods are arranged in the order of the amounts supplied at that price as estimated upon the cost per pound given in the preceding column. The second table is arranged in a similar manner with reference to the heat and energy furnished.

Neither table shows the relative amount of food value obtained for the same price. As heat and energy and muscle building material are all necessary for the support of life, the two tables must be considered together in determining the relative food values. The fuel value of food may be determined from the analysis. To determine the number of calories per pound, multiply the sum of the per cent of carbohydrates and protein by 18.6. To this product add the product of the per cent of fat multiplied by 42.2.

THE PALATABILITY OF RATIONS.

The dairyman knows that his milch cow demands $2\frac{1}{2}$ pounds of protein and a proportionate amount of carbohydrates. These he gives the cow from the cheapest foods available but he recognizes one exception, that is the ration must be palatable. The cow must like it or she will not do well on it. Likewise palatability is a necessary thing in human eating. We notice from the tables given that the cheapest thing that human beings can eat which contain the necessary food constituents are oats, corn, wheat and rye. But the human stomach is not as large or powerful as the bovine stomach, and a strictly grain diet would lack palatability and variety, both of which must be considered in formulating the human ration.

PROTEIN IN THE RATION.

By far the most important item in human food is the protein part of the ration. It is this element that must be had to repair the waste of the muscular tissue of the body. Being the scarcest of the food elements, it is the highest in price and a material reduction in living cost can be had if we select those protein foods that are relatively cheap. The cost of $3\frac{1}{3}$ oz. of protein in a day's ration in oats, corn or wheat would be about $2\frac{1}{3}$ cents but as these foods are low in protein a man

Chart I. Milk and Milk Products.

U.S. Department of Agriculture
Office of Experiment Stations
A.C. True: Director

Prepared by
C.F. LANGWORTHY
Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.



Protein



Fat



Carbohydrates



Ash

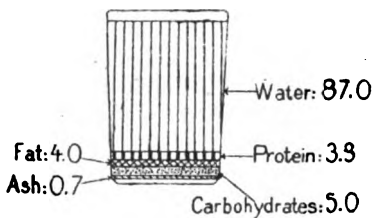


Water



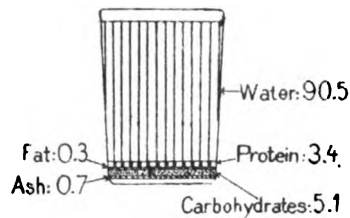
Fuel Value
1 Sq. In. Equals
1000 Calories

WHOLE MILK



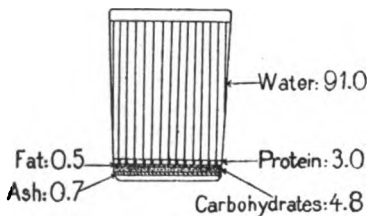
FUEL VALUE: 310 CALORIES PER POUND

SKIM MILK



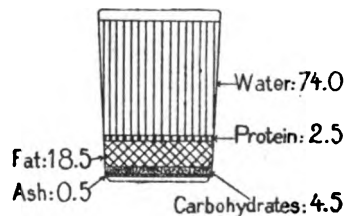
FUEL VALUE: 165 CALORIES PER POUND

BUTTERMILK



FUEL VALUE: 160 CALORIES PER POUND

CREAM



FUEL VALUE: 865 CALORIES PER POUND

would have to eat about 2 pounds a day of these foods to secure the necessary protein. We must, therefore, select foods that are richer in protein.

Most people depend on meat for the protein element. But a day's ration of protein in beef, pork or lamb would cost 18 cents. The common white or navy bean contains a large amount of protein, and a day's ration of protein in beans would cost less than 5 cents.

Other cheap sources of protein are as follows: The price in cents

Chart 2 Eggs and Cheese.

U.S. Department of Agriculture
Office of Experiment Stations
A. C. True, Director

Prepared by
G. F. LANGWORTHY
Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.



Protein



Fat



Carbohydrates



Ash

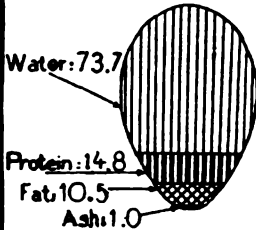


Water



Fuel Value
L. Sq. In. Equals
1000 Calories

WHOLE EGG



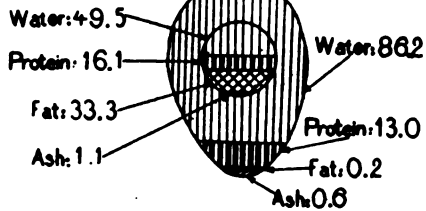
FUEL VALUE OF
WHOLE EGG:



700 CALORIES
PER POUND

EGG

WHITE AND YOLK



FUEL VALUE OF YOLK:



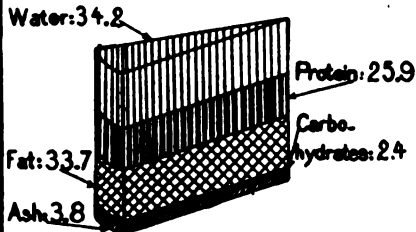
1608 CALORIES
PER POUND

FUEL VALUE OF WHITE:



265 CALORIES
PER POUND

CREAM CHEESE

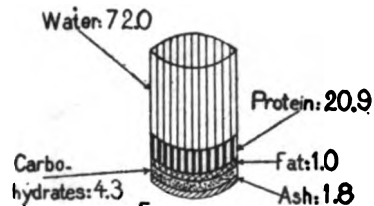


FUEL VALUE:



1950 CALORIES PER POUND

COTTAGE CHEESE



FUEL VALUE:



510 CALORIES PER POUND

being the price of $3\frac{1}{3}$ ounces of protein in the foods named which is the amount needed by a healthy man at hard work. Cottage cheese, 9 cents; skim milk, 14 cents; cream cheese, 16 cents. The figures here given should not be entirely relied on for many of the foods having a high protein cost have also a large value in fats and carbohydrates and both must be considered in making up a ration. We desire at this time, however, to call especial attention to the value of beans as food. They have a very large available quantity of protein exceeding meat in that respect and the price is very low. Moreover the State of Mich-

Chart 3. Meat Fresh and Cured.

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Office of Experiment Stations
A.C. True, Director

Prepared by
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Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.



Protein



Fat



Carbohydrates



Ash

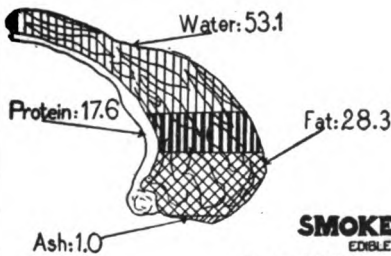


Water



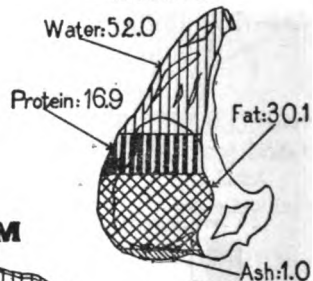
Fuel Value
¼ Sq. In. Equals
1000 Calories

LAMB CHOP EDIBLE PORTION



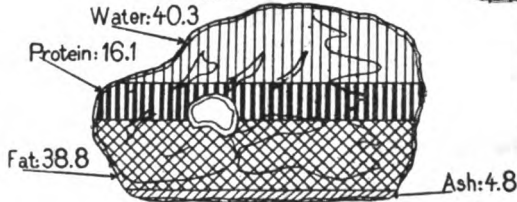
FUEL VALUE:
1540 CALORIES
PER POUND

PORK CHOP EDIBLE PORTION



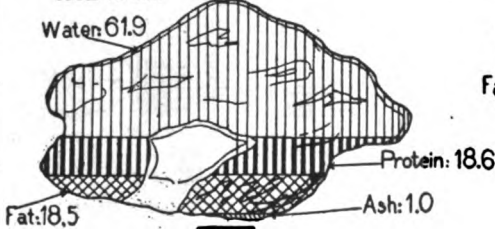
FUEL VALUE:
1580 CALORIES
PER POUND

SMOKED HAM EDIBLE PORTION



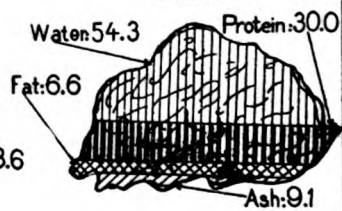
FUEL VALUE:
1940 CALORIES
PER POUND

BEEF STEAK EDIBLE PORTION



FUEL VALUE:
1130 CALORIES
PER POUND

DRIED BEEF EDIBLE PORTION



FUEL VALUE:
840 CALORIES
PER POUND

igan raises more and better beans than any state in the union and eating beans not only saves money for the consumer but helps a Michigan industry.

HEAT AND POWER IN THE RATION.

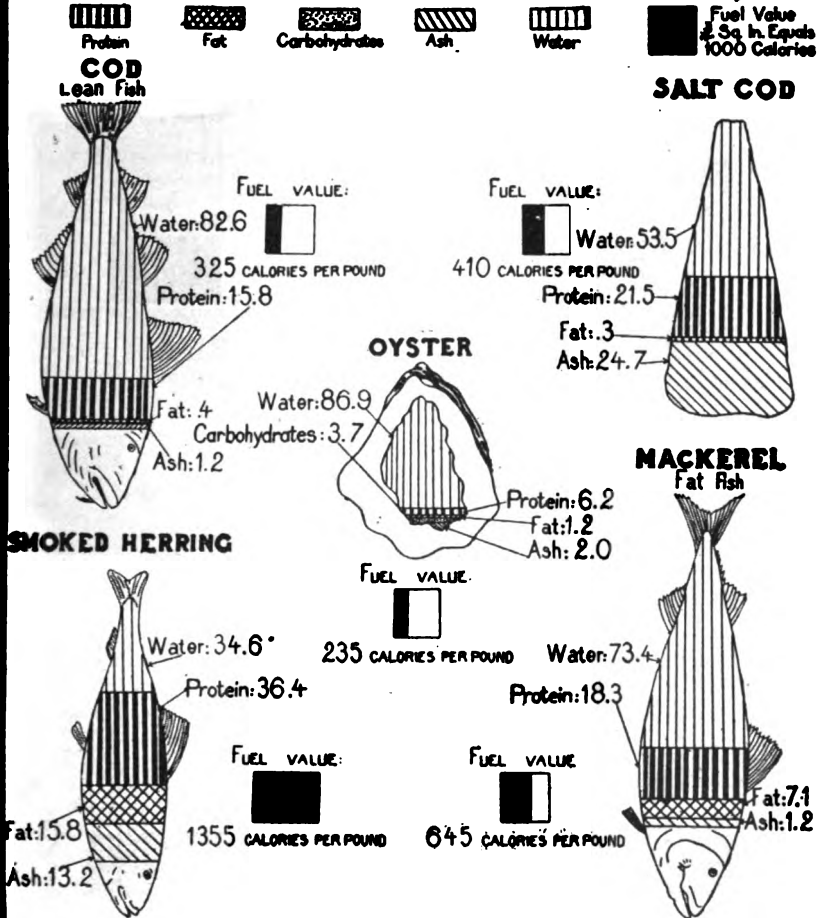
For energy and heat the working man must be supplied with $17\frac{1}{3}$ oz. of carbohydrates. For this the various grains like oats, corn and wheat rank very high also the sugars, but by far the most available, both from

Chart 4. Fish, Fish Products, and Oysters.

U.S. Department of Agriculture
Office of Experiment Stations
A.C. True, Director

Prepared by
C.F. LANGWORTHY
Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.



cost and the standpoint of health is the potato. The carbohydrates in the potato are more easily digested than those of the cereals and besides the potato contains a large amount of mineral salts necessary for the maintenance of bodily health. Michigan produces more bushels of potatoes than any state in the union with one exception and we can help our health, our pockets and our state by eating more potatoes. In this bulletin we reprint an article on the potato as a food by Dr. J. H. Kellogg, head of the famous Sanitarium at Battle Creek. We

Chart 8. Butter and other Fat-Yielding Foods.

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Office of Experiment Stations
A.C. True, Director

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Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.



Protein



Fat



Carbohydrates



Ash



Water



Fuel Value
4.54 In. Equals
1000 Calories

OLIVE OIL

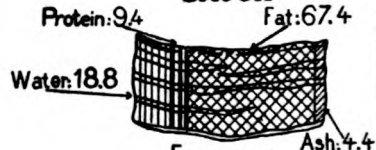


Fat: 100.0

FUEL VALUE:

4080 CALORIES PER POUND

BACON



Protein: 9.4

Fat: 67.4

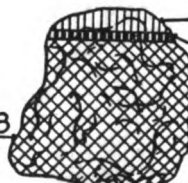
Water: 18.8

Ash: 4.4

FUEL VALUE:

3030 CALORIES PER POUND

BEEF SUET



Water: 13.2

Protein: 4.7

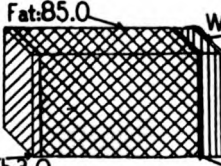
Fat: 81.8

Ash: 0.3

FUEL VALUE:

3510 CALORIES PER POUND

BUTTER



Fat: 85.0

Water: 11.0

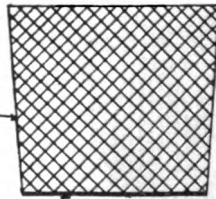
Ash: 3.0

Protein: 1.0

FUEL VALUE:

3410 CALORIES PER POUND

LARD



Fat: 100.0

FUEL VALUE:

4080 CALORIES PER POUND

ask a careful perusal of the same as it is probably the best article that has ever been written on the subject.

SOME SUGGESTIONS AS TO WASTE IN FOODS.

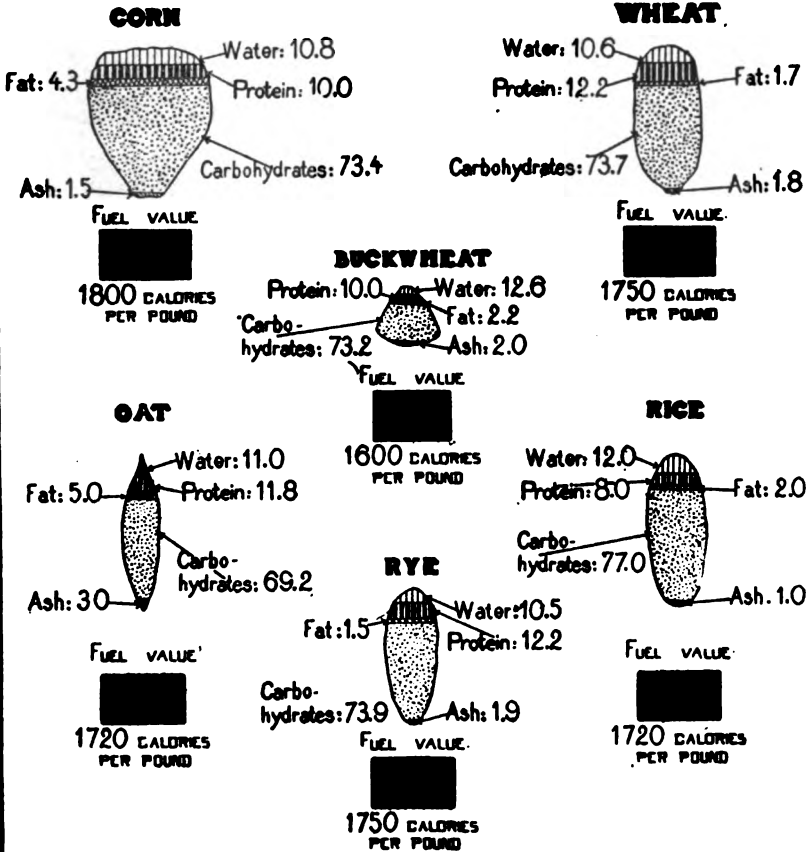
In recent years many foods have been put up by the manufacturer in paper packages; while these packages are both convenient and sanitary, the purchase of food therein is often very expensive to the con-

Chart 6. Cereal Grains.

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Office of Experiment Stations
A.C. True, Director

Prepared by
C.F. LANGWORTHY
Expert in Charge of Nutrition Investigations

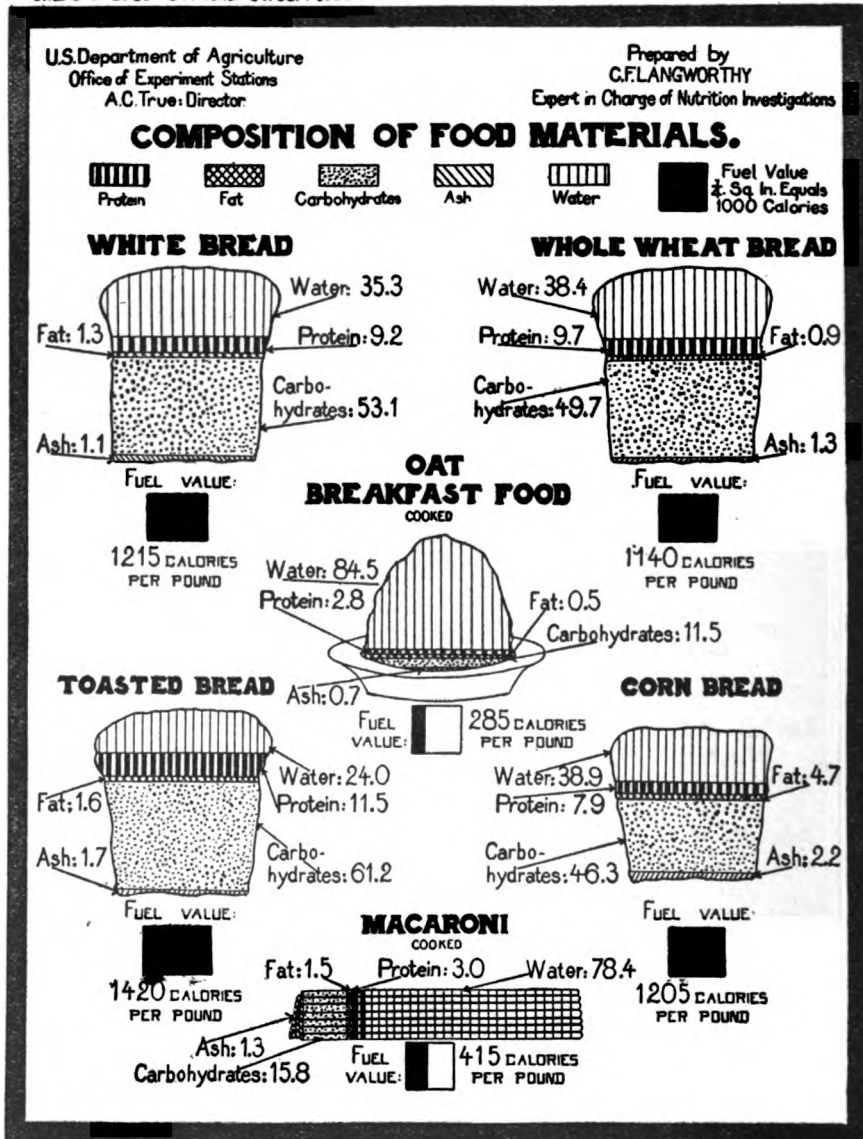
COMPOSITION OF FOOD MATERIALS.



sumer. Take the breakfast foods for example. The net weight of a package of corn flakes is about 10 ounces. Now the package is simply corn and its food values can not be of any greater value than an equal amount of corn meal. When the consumer gives ten cents for a package of corn flakes he is simply paying \$320 a ton for corn meal.

Take the wheat breakfast foods. The net weight of a package of wheat breakfast food is 12 to 16 ounces and it sells for 10 cents a package. It contains no more food value than an equal amount of wheat

Chart. 7. Bread and other Cereal Foods.



and at this price the consumer is paying \$4.50 to \$6.00 a bushel for wheat. In these foods the package costs more than the food, yet we throw the package away and wonder at the high cost of living.

The net weight of a package of biscuit crackers is 5 ounces for which you pay 5 cents or 16 cents a pound. Crackers of equal food value can be purchased for 8 cents a pound in bulk.

Bulletin No. 2 of the Kansas State Board of Health, says:

"The statements so often made in the advertisements of breakfast

Chart 8. Sugar and Similar Foods.

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Office of Experiment Stations
A.C. True, Director

Prepared by
C.F. LANGWORTHY
Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.

Protein

Fat

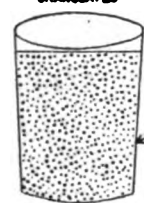
Carbohydrates

Ash

Water

Fuel Value
± Sq. In. Equals
1000 Calories

SUGAR GRANULATED

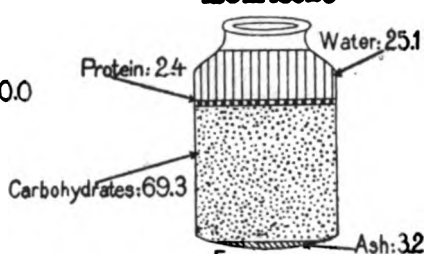


Carbohydrates: 100.0

FUEL VALUE:

1860 CALORIES
PER POUND

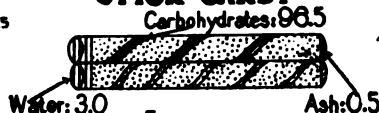
MOLASSES



FUEL VALUE:

1290 CALORIES
PER POUND

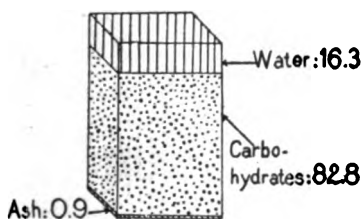
STICK CANDY



FUEL VALUE:

1785 CALORIES
PER POUND

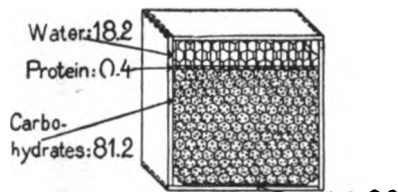
MAPLE SUGAR



FUEL VALUE

1540 CALORIES PER POUND

HONEY



FUEL VALUE:

1520 CALORIES PER POUND

foods, that their particular product has a special nutritive value not found in the grain or cereal from which it is made is on its face entirely false. The retail price of these products is from two to five times the price of meal or flour made from the same grains. From a standpoint of economy, therefore, these products have no legitimate ground for existence."

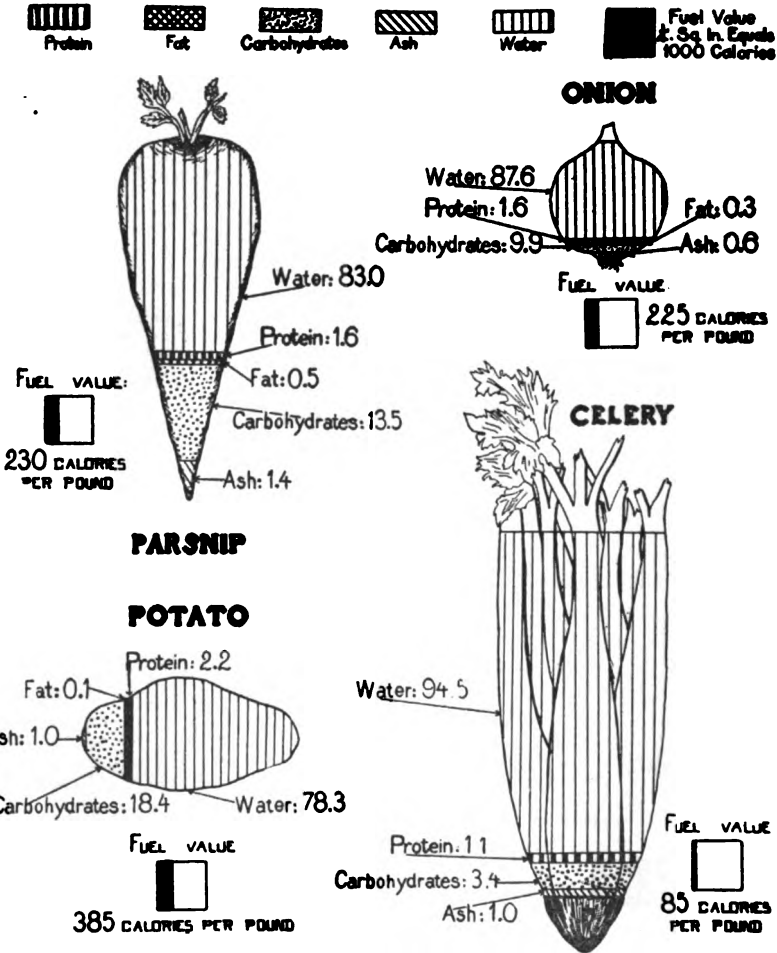
The Bulletin of the Main Agricultural Experiment Station for 1906 quotes the cost in cents per pound of some of these cereal foods: Quaker

Chart 9. Roots and Succulent Vegetables.

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Office of Experiment Stations
A.C. True, Director

Prepared by
C.F. LANGWORTHY
Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.



Oats, 3 cents; Cream of Wheat, 8.8 cents; Grape Nuts, 14 cents; Shredded Whole Wheat, 15 cents; Force, 16 cents; Flaked Rice, 18 cents; Granula, 27 cents, and Prof. E. H. S. Bailey, food analyst for the State Board of Health, in an article in December Popular Science Monthly, adds the following: Quaker Corn Flakes, 13 cents per pound; Kellogg's Corn Flakes, 13 cents; Maple Corn Flakes, 14 cents; Post Toasties, 14 cents; Grape Sugar Flakes, 17 cents; Malta Vita, 18 cents; Sugar Corn Flakes, 20 cents; Holland Rusk, 22 cents, and Puffed Wheat,

Chart 10. Legumes, and Corn.

U.S. Department of Agriculture
Office of Experiment Stations
A.C. True, Director

Prepared by
C.F. LANGWORTHY
Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.



Protein



Fat



Carbohydrates



Ash

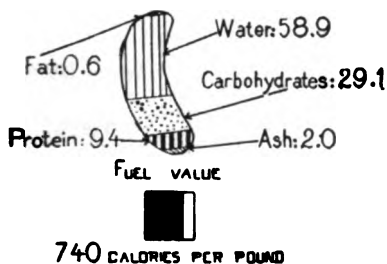


Water

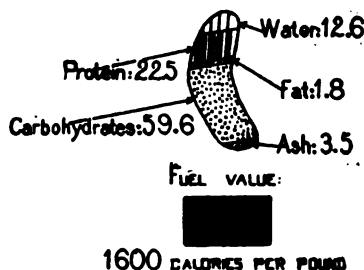


Fuel Value
2.54 lb. Equals
1000 Calories

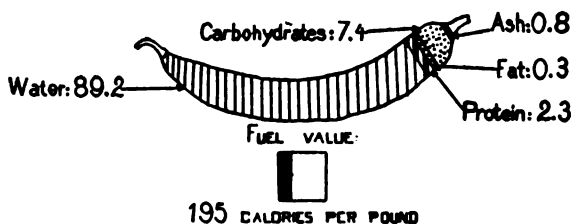
SHELLED BEAN FRESH.



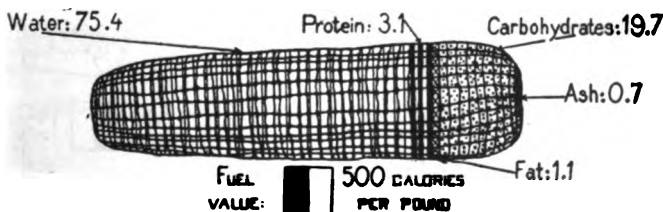
NAVY BEAN, DRY.



STRING BEAN, GREEN.



CORN, GREEN EDIBLE PORTION



29 cents. Professor Bailey then comments as follows: "At this rate a bushel of wheat, which might be originally worth one dollar, would when a made into a breakfast food cost the housekeeper from five to twelve dollars, calculating that 75 per cent of the grain is available as food, as is the case in making wheat flour. Oatmeal in bulk sells at five cents a pound, and simple preparations of other grains at from five to seven cents."

"These are a few of the illustrations to show 'where the money goes,'

Chart II. Fresh and Dried Fruit

US Department of Agriculture
Office of Experiment Stations
A.C. True, Director

Prepared by
C.F. LANGWORTHY
Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.

Protein



Fat



Carbohydrates



Ash



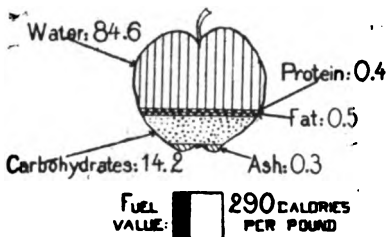
Water



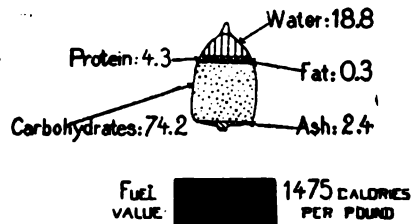
Fuel Value
4.54 in Equals
1000 Calories

APPLE

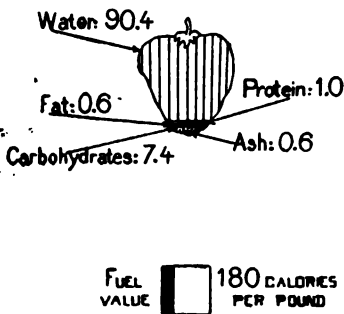
EDIBLE PORTION

**DRIED FIG**

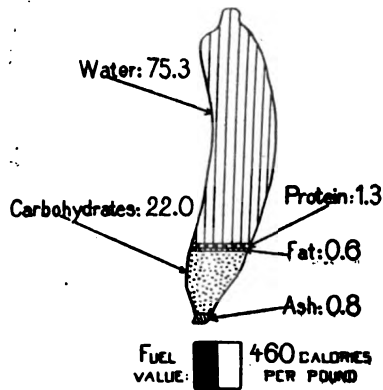
EDIBLE PORTION

**STRAWBERRY**

EDIBLE PORTION

**BANANA**

EDIBLE PORTION

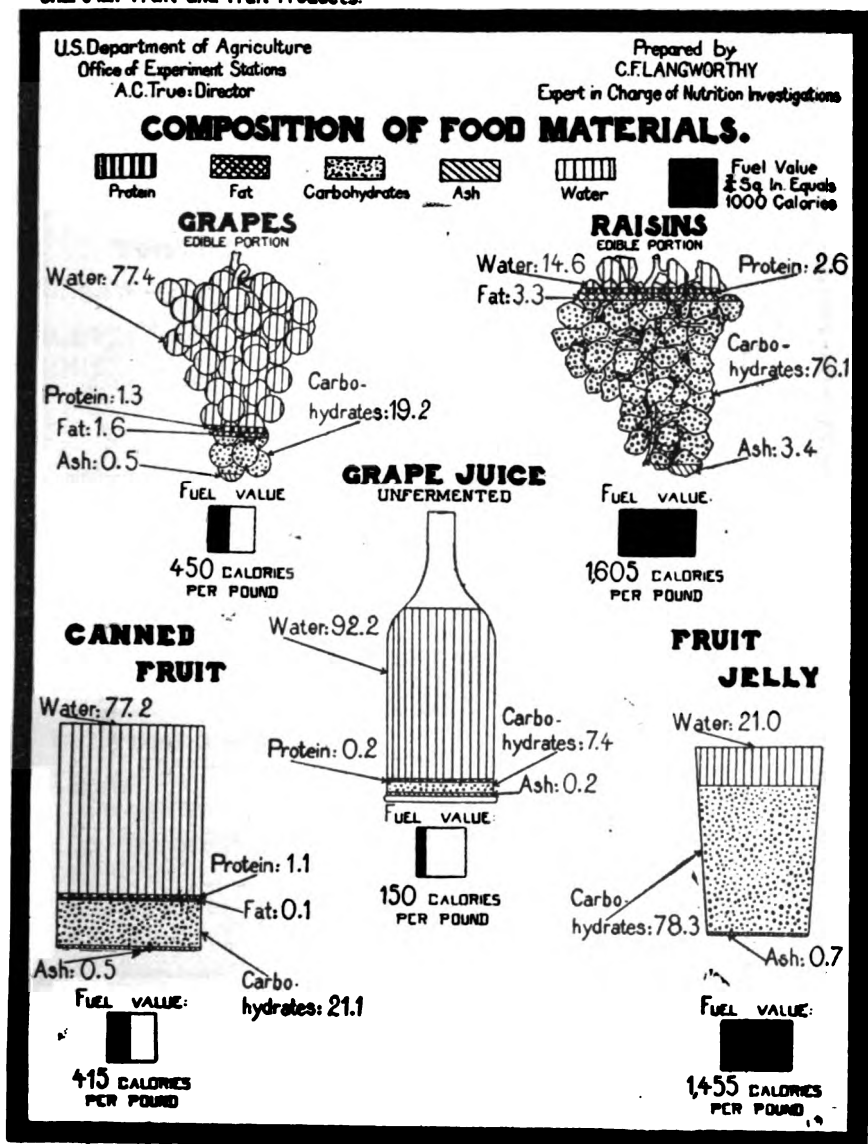


or at least some of it, expended in the ordinary household. Some of us are living on the luxuries of the market, and use them as food to furnish the proteids and carbohydrates and fat for daily consumption. Instead of using the oak and maple and pine for fuel, we are feeding the fire with mahogany and Circassian walnut and rare imported woods."

CHEAP CEREALS.

Cereals for the breakfast table seem to be necessary and they are

Chart 12. Fruit and Fruit Products.

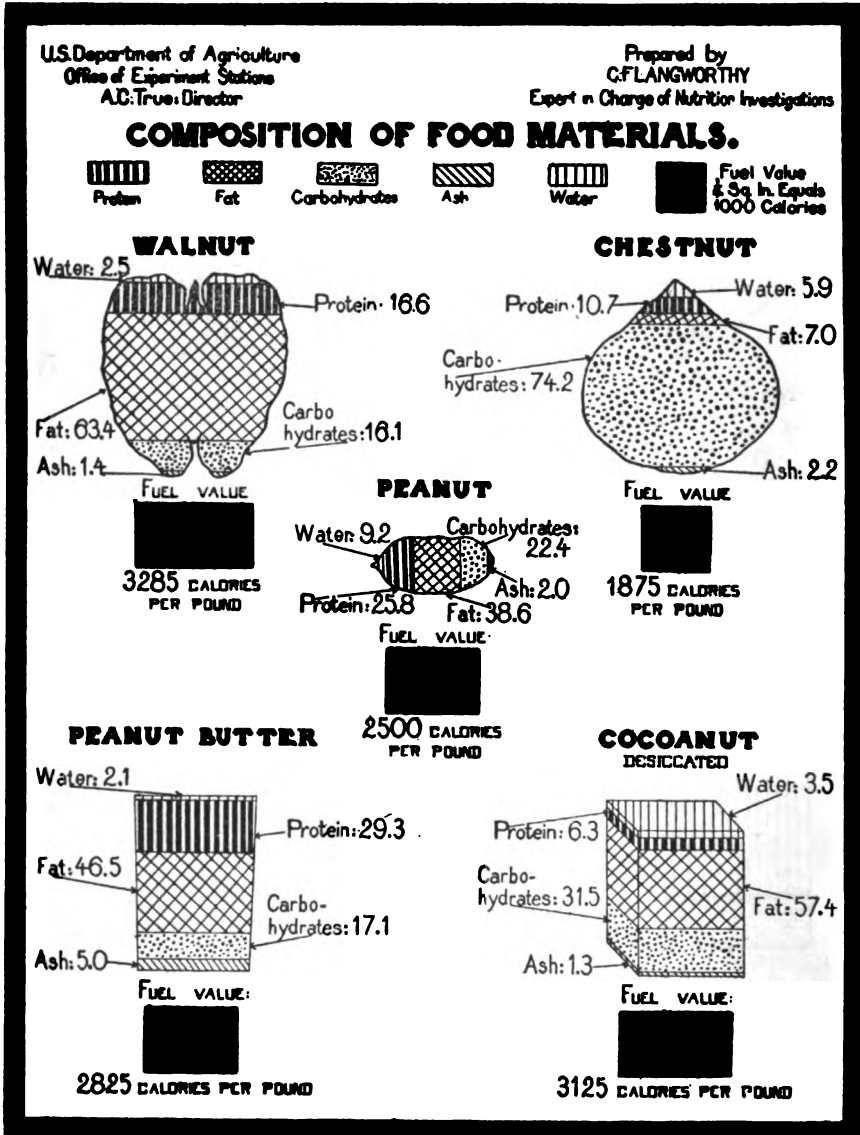


very cheap when obtained directly from the grain itself. Plain Oatmeal and cracked wheat make the best of cereals at a very small expense. A much greater food value is obtained in these forms at much less expense than in the manufactured products.

Millionaire food manufacturers and electric signs in every city are all paid for by the consumer and do him little if any good.

The wife of the writer recently went out and bought a bushel of wheat (60) pounds of a farmer for \$1.00. She procured a small grinder

Chart 13. Nuts and Nut Products.



and grinds it coarse for breakfast food, and fine for graham gems. The breakfast food is cooked for 48 hours, a fireless cooker being used part of the time; in this way she has a superior article of food at a minimum cost.

A loaf of bakers' bread weighs 14 ounces and sells for five cents. The cost of the raw material in the bread is $2\frac{1}{4}$ cents. The bread averages from 57 to 62% water. Whether the housewife can save by making her own bread is a question for each to decide. The cost of $2\frac{1}{4}$ cents is for raw material at wholesale price.

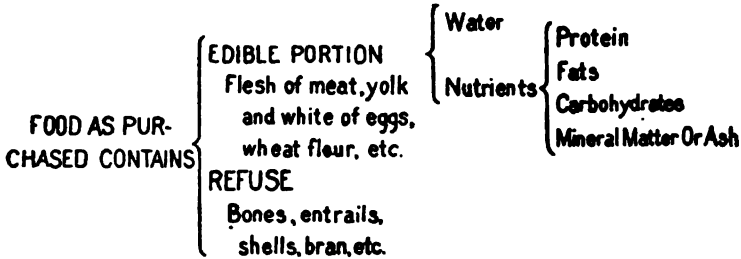
Chart 14. Composition, Functions, And Uses Of Food.

U.S. Department of Agriculture
Office of Experiment Stations
A.C. True, Director.

Prepared by
C. F. LANGWORTHY
Expert in charge of Nutrition Investigations

FUNCTIONS AND USES OF FOOD.

CONSTITUENTS OF FOOD.



USE OF FOOD IN THE BODY.

PROTEIN-----	Builds and repairs tissue	} All serve as fuel to yield energy in the forms of heat and muscular power.
White (albumen) of eggs, curd (casein) of milk, lean meat, gluten of wheat, etc.,		
FATS-----	Are stored as fat	
Fat of meat, butter, olive oil, oils of corn and wheat, etc		
CARBOHYDRATES----	Are transformed into fat	
Sugar, starch, etc.		
MINERAL MATTER OR ASH---	Share in forming bone.	
Phosphates of lime,	assists in digestion, etc.	
potash, soda, etc.		
Food is that which, taken into the body, builds tissue or yields energy		

White bread should be avoided as it lacks the bran which contains all the mineral elements of the wheat. The bran contains phosphate of lime, which builds up the bone. We give the following receipt for

BRAN CAKES.

First mix together one cupful white flour and three cupfuls wheat bran. Beat together one egg, two tablespoons molasses, a pinch of salt, a cupful of sour cream, a teaspoon soda, and stir into this sufficient

Chart 15 Dietary Standards.

U.S. Department of Agriculture
Office of Experiment Stations
A.C. True, Director.

Prepared by
C. F. LANGWORTHY
Expert in charge of Nutrition Investigations

DIETARY STANDARDS.

**DIETARY STANDARD FOR MAN IN FULL VIGOR
AT MODERATE MUSCULAR WORK.**

Condition considered	Protein	Energy
	Grams	Calories
Food as purchased	115	3,800
Food eaten	100	3,500
Food digested	95	3,200

ESTIMATED AMOUNT OF MINERAL MATTER**REQUIRED PER MAN PER DAY.**

	Grams		Grams
Phosphoric acid (P_2O_5)	3 to 4	Calcium oxid	0.7 to 1.0
Sulphuric acid (SO_3)	2 to 3.5	Magnesium oxid	0.3 to 0.5
Potassium oxid	2 to 3	Iron	0.006 to 0.012
Sodium oxid	4 to 6	Chlorin	6 to 8

of the bran flour to make a batter that will run on the tins when dropped from the spoon. Sour milk and a small piece of butter may be used instead of the sour cream, and sweet milk with baking powder may also be used, but care must be taken not to stir them too stiff.

FRUITS AS FOOD.

It will be noticed in the tables that fruits and certain vegetables have a very low food value. They should not for this reason be discarded.

Their large bulk and the various acids in the fruits aid greatly in processes of digestion and are nature's remedies in the curing of many derangements of the digestive system. The citric acid of the lemon and orange is good for liver derangement and the malic acid of the apple is an invigorator of bowel action.

As the best remedy to take fat off the system, Dr. Kellogg advises a fruit diet. The bulkiness of the fruit allays the hunger craving while its low nutritive food value does not tend to pile up flesh or fat on the body no matter in how large quantities it is consumed.

THE VALUES OF MILK AS FOOD.

One of the most valuable of foods for human consumption is milk and it may be largely used as a substitute for meat. A quart of milk (cost 8 cents) furnished .016 pounds of protein and 78 calories of fuel value for each cent invested. A pound of beefsteak costing 17 cents gives .011 pounds of protein and 67 calories of fuel value for each cent expended. It will be seen that a quart of milk has a greater food value than a pound of beefsteak and costs less than half as much.

Considered from the standpoint of food values, one of the cheapest and best foods is ice cream although by most people it is considered a luxury. Cottage cheese has also a high food value and can be used as a substitute for meat.

We give below a table showing the relative values of a large number of foods as compared with milk at 8 cents per quart.

Each of these foods contains the same amount of nutritive material as one quart of milk.

AMOUNT.

Kind of Food.	Cost.	No. or measure.	Weight grams.	Weight.		Total cost.
				Pounds.	Ounces.	
Milk.....	\$0.08 per qt.....	1 quart...	976	2	2	\$0.08
*Cheese.....	0.22 per lb.....		193.3		6.8	0.093
Eggs.....	0.25 per doz.....	10	566	1	3.9	0.20
†Meat.....	0.22 per lb.....		307.7		10.8	0.148
‡Codfish.....	0.18 per lb.....		428.5		15.1	0.141
§Bread.....			188.6		6.6	0.026
Corn meal.....	0.03 per lb.....		187.7		6.6	0.009
§Potatoes.....	1.00 per bu.....	7	722.7	1	9.4	0.026
Cabbage.....	0.025 per lb.....	1 head...	187.5	4	2.2	0.10
Dried beans.....	0.06 per lb.....		143		5.05	0.018
Oranges.....	0.40 per doz.....	8	1204	2	14.0	0.226
Apples.....	0.60 per pk.....	12	1053.6	2	5.1	0.092
Bananas.....	0.20 per doz.....	5	774	1	11.3	0.10
Prunes.....	0.15 per lb.....		187.5		6.62	0.061
Nuts.....	0.60 per lb.....		128.7		4.5	0.168

* Full cream cheese.
† Meat, fat round beef.
‡ Codfish, boneless.

§ Bread, white.
§ Potatoes, 60 lb., 3 bushel.

COMPOSITION OF FOOD MATERIALS.

Kind of Food.	Protein.	Fat.	Carbohy- drates.	Ash.	Water.	Fuel value calories per pound.
Olive oil		100.0				4080
Bacon	9.4	67.4		4.4	18.8	3030
Beef suet	4.7	81.8		0.3	13.2	3510
Butter	1.0	85.0		3.0	11.0	3410
Lard		100.0				4080
Whole milk	3.3	4.0	5.0	0.7	87.0	310
Skim milk	3.4	0.3	5.1	0.7	90.5	185
Buttermilk	3.0	0.5	4.8	0.7	91.0	180
Cream	2.5	18.5	4.5	0.5	74.0	865
Whole egg	14.8	10.5		1.0	73.7	700
White of egg	13.0	0.2		0.6	86.2	265
Yolk of egg	16.1	33.3		1.1	49.5	1608
Cream cheese	25.9	33.7	2.4	3.8	34.2	1950
Cottage cheese	20.9	1.0	4.3	1.8	72.0	510
Lamb chop	17.6	28.3		1.0	53.1	1540
Pork chop	16.9	30.1		1.0	52.0	1580
Smoked ham	16.1	38.8		4.8	40.3	1940
Beef steak	18.6	18.5		1.0	61.9	1130
Dried beef	30.0	0.6		9.1	54.3	840
Cod lean fish	15.8	.4		1.2	82.6	325
Salt cod	21.5	.8		24.7	53.5	410
Oyster	6.2	1.2	3.7	2.0	86.9	235
Smoked herring	36.4	15.8		13.2	34.6	1355
Mackerel, fresh	18.3	7.1		1.2	73.4	645
Shelled bean	9.4	0.6	29.1	2.0	58.9	740
Navy bean, dry green	22.5	1.8	59.6	3.5	12.6	1600
String bean	2.3	0.3	7.4	0.8	89.2	195
Corn, green	3.1	1.1	19.7	0.7	75.4	500
Apple	0.4	0.5	14.0	0.3	84.6	290
Dried fig	4.5	0.3	74.2	2.4	18.8	1475
Strawberry	1.0	0.6	7.4	0.6	90.4	180
Banana	1.3	0.6	22.0	0.8	75.3	460
Corn	10.0	4.3	73.4	1.5	10.8	1800
Wheat	12.2	1.7	73.7	1.8	10.6	1750
Buckwheat	10.0	2.2	73.2	2.0	12.6	1600
Oat	11.8	5.0	69.2	30.0	11.0	1720
Rice	8.0	2.0	77.0	1.0	12.0	1720
Rye	12.2	1.5	73.9	1.9	10.5	1750
White bread	9.2	1.3	53.1	1.1	35.3	1215
Whole wheat bread, oat	9.7	0.9	49.7	1.3	38.4	1140
Breakfast food (cooked)	2.8	0.5	11.5	0.7	84.5	235
Toasted bread	11.5	1.6	61.2	1.7	24.0	1420
Corn bread	7.9	4.7	46.3	2.2	38.9	1205
Macaroni, cooked	3.6	1.5	15.8	1.3	78.4	415
Sugar, granulated			100.0			1890
Molasses	2.4		69.3	3.2	25.1	1290
Stick candy			96.5	0.5	3.0	1785
Maple Sugar			82.8	0.9	16.3	1540
Honey	0.4		81.2	0.2	18.2	1820
Parasip	1.6	0.5	13.5	1.4	83.0	230
Onion	1.6	0.3	9.9	0.6	87.6	225
Potato	2.2	0.1	18.4	1.0	78.3	335
Celery	1.1		3.4	1.0	94.5	35
Grapes	1.3	1.6	19.2	0.5	77.4	450
Raisins	2.6	3.3	76.1	3.4	14.6	1,605
Canned fruit	1.1	0.1	21.1	0.5	77.2	415
Fruit jelly			78.3	0.7	21.0	1,455
Grape juice	0.2		7.4	0.2	92.2	150
Walnut	16.6	63.4	16.1	1.4	2.5	3285
Chestnut	10.7	7.0	74.2	2.2	5.9	1875
Peanut	25.8	38.6	22.4	2.0	9.2	2500
Peanut butter	29.3	46.5	17.1	5.0	2.1	2825
Cocconut (desiccated)	6.3	57.4	31.5	1.3	3.5	3125

RELATIVE PROTEIN VALUE OF FOODS.

Kind of Food.	Cost per pound—Cents.	Protein for 1 cent 1-1000 pound.	Kind of Food.	Cost per pound—Cents.	Protein for 1 cent 1-1000 pound.
Oat.....	1.75	67.4	Chestnut (shelled).....	15	7.1
Corn.....	1.5	66.7	White of egg.....	20	6.5
Wheat.....	2.5	48.8	Macaroni, cooked.....	5	6.0
Rye.....	3	40.7	Parsnip.....	3	5.3
Buckwheat.....	2.5	40.0	Onion.....	3	5.3
Navy bean, dry.....	6	37.5	Bacon.....	22.5	4.2
Corn bread.....	4	19.8	Beef suet.....	12	3.9
Whole wheat bread.....	5	19.4	Molasses.....	6.3	3.8
Toasted bread.....	6	19.1	English walnut (shelled).....	60	3.3
White bread.....	5	18.4	Dessicated coconut.....	19	3.3
Cottage cheese.....	12	17.4	Oysters.....	20	3.1
Peanuts (shelled).....	15	17.2	Oat breakfast food.....	10	2.8
Potato.....	1.3	16.9	Raisins.....	10	2.6
Smoked herring.....	25	14.5	Banana.....	5	2.6
Skim milk.....	2.5	13.6	Green string bean.....	10	2.3
Salt cod.....	16	13.4	Dried fig.....	22	2.0
Buttermilk.....	2.5	12.0	Corn, green.....	15	2.0
Cream cheese.....	22	11.8	Canned fruit.....	10	1.1
Peanut butter.....	25	11.7	Strawberry.....	10	1.0
Fresh shelled beans.....	8	11.7	Apple.....	5	0.8
Beefsteak.....	17	10.9	Celery.....	15	0.7
Pork chops.....	16	10.6	Grapes.....	20	0.6
Mackerel.....	18	10.2	Butter.....	37	0.3
Dried beef.....	30	10.0	Honey.....	22	0.2
Cod fish (lean).....	16	9.9	Grape juice.....	25	0.1
Smoked ham.....	18	8.9	Granulated sugar.....	6	0.0
Lamb chop.....	20	8.8	Lard.....	17	0.0
Whole milk.....	4	8.2	Stick candy.....	15	0.0
Rice.....	10	8.0	Olive oil.....	52	0.0
Yolk of egg.....	20	8.0	Maple sugar.....	23	0.0
Whole egg.....	20	7.4	Fruit jelly.....	30	0.0

RELATIVE HEAT AND ENERGY VALUES OF FOODS.

Kind of Food.	Cost per pound—Cents.	Fuel value for 1 cent—Calories.	Kind of Food.	Cost per pound—Cents.	Fuel value for 1 cent—Calories.
Corn.....	1.5	1200	Whole milk.....	4	78
Oat.....	1.75	983	Lamb chops.....	30	77
Wheat.....	2.5	700	Parsnips.....	3	77
Barley.....	2.5	640	Onion.....	3	75
Rye.....	3	583	Honey.....	22	69
Granulated sugar.....	6	310	Dried fig.....	22	67
Corn bread.....	4	301	Maple sugar.....	22	67
Potato.....	1.3	296	Beefsteak.....	17	67
Beef suet.....	12	292	Skim milk.....	2.5	66
Navy bean, dry.....	6	267	English walnut (shelled).....	50	66
White bread.....	5	243	Buttermilk.....	2.5	64
Lard.....	17	240	Apple.....	5	58
Toasted bread.....	6	237	Cream (18.5 per cent).....	15	58
Whole wheat bread.....	5	228	Smoked herring.....	25	54
Molasses.....	6.3	205	Fruit jelly.....	30	43
Rice.....	10	172	Cottage cheese.....	12	43
Peanuts (shelled).....	15	167	Canned fruit.....	10	41
Desiccated coconut.....	19	164	Mackerel.....	18	36
Raisins.....	10	161	Whole egg.....	20	35
Bacon.....	22.5	125	Green corn.....	15	33
Chestnuts (shelled).....	15	125	Oat breakfast food.....	10	29
Stick candy.....	15	119	Dried beef.....	30	28
Peanut butter.....	25	113	Salt cod.....	16	27
Smoked ham.....	18	106	Grapes.....	20	23
Pork chops.....	16	99	Codfish (lean).....	16	20
Fresh shelled beans.....	8	93	Green string beans.....	10	19
Banana.....	5	92	Strawberry.....	10	18
Butter.....	37	92	White of egg.....	20	12
Cream cheese.....	22	89	Oysters.....	20	12
Macaroni, cooked.....	5	81	Grape juice.....	25	6
Yolk of egg.....	20	80	Celery.....	15	6
Olive oil.....	52	79			

THE POTATO AS A FOOD.

One of the greatest authorities on food in the world is Dr. J. H. Kellogg, superintendent of the Battle Creek Sanitarium, Battle Creek, Mich. He has spent a lifetime in the study of the various articles of food, his investigations covering all possible sources of information, not only in America, but in Europe. The following articles on the "The Special Dietetic Virtues of the Potato," by this foremost authority, is one of the best ever written about the potato:

"Soon after the potato was introduced into Europe in the sixteenth century the ridiculous notion somehow got afloat that the use of the potato was the cause of leprosy, which at that time was quite prevalent in most European countries. The prejudice which was thus created against this most valuable of all garden vegetables has never been quite overcome. Various malicious libels against the good name of this most innocent and wholesome of foodstuffs are still afloat. Multitudes believe the potato to be difficult of digestion. Even physicians often prohibit its use on the supposition that it is likely to ferment in the stomach—a mistaken notion, as the writer will show. The belief is quite general that the potato especially promotes fat-making, and hence that its use must be avoided by persons who have a tendency to obesity. This is also an error. All foods tend to produce obesity when taken in excessive quantity; that is, more than the individual needs to maintain his nutrition on equilibrium. No foods produce excess of fat when limited in quantity to actual daily needs.

"The potato is truly a most remarkable product. It contains within its aseptic covering a rich store of one of the most easily digestible of all forms of starch. The observations of Mosse, Van Noorden and others have shown most conclusively that the starch of the potato is more easily digested and appropriated by the body than the starches of wheat, corn and most other cereals. In laboratory tests made by the writer it was found that potato starch digested in less than one-sixth of the time of cereal starches. The experience of hundreds of physicians in the treatment of diabetes has shown that in many cases the starch of the potato is more easily assimilated or better utilized than other forms of starch.

"Potato gruel made from specially prepared potato meal or the pulp of baked potatoes has been found in Germany of very great service in the feeding of infants and invalids. Potato starch is far better for this purpose than cornstarch, arrowroot and similar substances, which are pure starch and cannot be properly considered as foods. The long continued use of these starches in the feeding of young infants often results more disastrously.

"The potato is not only an easily digestible foodstuff but possesses much higher nutritive value than is generally supposed. According to Gautier, about one-fourth of the weight of the potato is food substance, consisting chiefly (nine-elevenths) of starch. Of the remainder, three-fifths are protein, the tissue-building element, and two-fifths alkaline salts

in combination with citric and malic acids, the acids of the lemon and the apple.

"From a dietetic standpoint, the potato is perhaps slightly deficient in protein, though this statement would be disputed by some physiologists whose experiments appear to demonstrate that the amount of protein contained in the potato is quite sufficient for ordinary bodily needs.

"The potato is certainly deficient in fats, of which it contains almost none, because of the fact that it is not, like so many of our vegetable foods, a seed, but a curiously modified and enormously fleshy tuber. This deficiency in fat must always be remembered in the use of the potato, and the lack must be made up by the addition of cream, butter, or some other foodstuff rich in fat.

"What the potato lacks in fat and protein, however, it makes up in salts, which constitute nearly 5 per cent of its dry substance and are perhaps its most characteristic quality from a dietetic standpoint and one of its chief excellences. These salts consist chiefly of potash, and in the ordinary form in which they are supplied do a most important service in maintaining the alkaline condition of the blood, which is essential to good health and resistance to disease. Meats contain very great excess of acid-forming elements and tend to acidify the blood. Cereals have some tendency in the same direction. The lowering of the alkalinity of the blood by acid-forming foods, especially by the free use of meats, is unquestionably one of the chief causes of the rapid increase in chronic diseases, the mortality from which has doubled within thirty years, causing a loss annually of 350,000 more lives than would occur if the average citizen was as healthy as he was thirty years ago. This is probably also one of the chief causes of arteriosclerosis, or hardening of the arteries, gout, rheumatism, Bright's disease, apoplexy, and other degenerative maladies. The alkaline salts of vegetables are needed to balance the dietary. If the consumption of potatoes in this country could be quadrupled, the result would undoubtedly be the saving of many thousands of lives annually and an incalculable amount of suffering from disease.

"The great nutritive value of the potato, notwithstanding the fact that it is three-fourths water, may be best shown by comparing it with other known foods. A study of the nutritive value of various common foodstuffs shows that one pound of baked potato is equivalent in total nutritive value to the quantities of various foods shown in the following table:

Food equivalent in total food value to one pound of baked potato:

1 $\frac{5}{8}$ pounds of boiled potato.

5 $\frac{7}{8}$ ounces boiled beef.

1 pound of chicken.

1 $\frac{1}{2}$ pounds of codfish.

2 $\frac{1}{4}$ pints of oysters (solids).

4 pints of clams (in shell).

4 $\frac{1}{2}$ pints of beef juice.

10 pints bouillon or beef tea.

1 $\frac{1}{8}$ pints whole milk.

3 pints skimmed milk.

- 8 eggs.
- 9 ounces baked beans.
- 7 ounces bread.
- 1¾ pints oatmeal or cornmeal mush.
- 1½ pints hominy (cooked).
- 1 pint boiled rice.
- 1 pound of bananas.
- 2 pounds parsnips (cooked).
- 1 pound green peas (cooked).
- 3 pounds beets (cooked).
- 4 pounds boiled cabbage.
- 4 pounds radishes.
- 5 pounds tomatoes.
- 5 pounds turnips (cooked).
- 6½ pounds cucumbers.

"From the above table it will readily appear that the potato is one of the most nourishing of our common foods. Its value is still further emphasized by the fact that steamed or mashed potato digests in two or three hours, whereas roast beef requires four or five hours, or double the time (Gautier).

"As already noted, the potato is not rich in protein, although the amount of this element in the baked potato reaches the Chittenden standard, 10 per cent of the total nutritive values a proportion which in feeding many thousands of persons, those in health, as well as invalids, at the Battle Creek Sanitarium, we have found amply sufficient. The writer adopted personally a very low protein standard in early life and has adhered to it for more than forty-six years, and with great benefit. Nevertheless, if a larger amount of protein is required, it may easily be obtained by the addition of milk or eggs, substances which while increasing the proportion of protein also add the fat necessary to render the potato a complete food. Half a pint of rich milk will thus balance a pound of baked potato; or an equally good balance may be made by adding to a pound of potato two ounces of white bread (two ordinary slices) and an ounce of butter.

"Bunge, the world's greatest authority on the chemistry of foods, has called special attention to the importance of the alkaline salts that are found in vegetables, and in a much larger proportion in the potato than in any other vegetable used as food, the potato containing nearly forty times as much of this useful element as some cereal foods. No farmer would think of feeding his horses or cattle on grain alone. Cereals of all sorts contain a considerable excess of acid-forming elements. Grass and herbage of all sorts, as well as fresh vegetables, contain an abundance of alkaline salts, and hence are a necessary part of the diet of animals. Human beings, as Bunge has clearly shown, require such vegetables for the same reason, and the potato is the most valuable of all known foods as a source of these essential elements. This is perhaps the reason why the potato is an almost invariable accompaniment of meat dishes. Meat contains an enormous excess of acid-forming substances, which are to some extent neutralized and antidoted by the basic salts of the potato.

"Graham bread with butter, or beans with butter, however, are much

better combinations with potato than meat, for the reason that both meat and potato are lacking in lime. The body requires about thirteen grains of lime a day. Meat contains but half a grain of lime to the pound. The potato contains only a grain and a half to the pound. Wheat flakes and other whole wheat preparations contain four grains of lime to the pound, and peas and beans contain eight grains of lime to the pound. Cow's milk contains fourteen grains of lime to the pint. The American people are losing their teeth, and bone diseases are increasing, as a result of this deficiency of lime. Professor Sherman of Columbia University declares that half the people of the United States are suffering from lime starvation. This is in part because of the meat diet and free use of cane sugar. Less meat, a larger proportion of potatoes, combined with wheat preparations and other cereals, beans, peas, and cow's milk would help to check this degenerative tendency.

THE POTATO AS A FOOD REMEDY.

"The potato is of immense service as a food remedy in the treatment of a large number of diseases. It is especially valuable in cases of chronic intestinal auto-intoxication or 'biliousness.' It affords bulk for the intestines to act upon, and so antagonizes constipation. The large proportion of starch and other carbohydrates encourages the growth of friendly bacteria in the intestines, thus preventing putrefaction. For the same reason the free use of potatoes combats rheumatism and gout, which are results of chronic intestinal poisoning.

"The potato is valuable in the treatment of anemia, because it combats the growth in the intestine of the germs which produce blood-destroying poisons. The death rate from diabetes, according to the mortality statistics of the United States census bureau, has increased nearly 50 per cent in ten years. The freer use of potatoes as an article of diet and the lessened consumption of meat would perhaps do more than any other thing to suppress the alarming increase of this fatal malady.

"Arteriosclerosis, or hardening of the arteries, a disease which causes apoplexy and is associated with Bright's disease and various forms of heart disease besides being the cause of premature old age, is often directly the result of chronic poisoning, the course of which is the putrefaction of undigested remnants of animal substances which have been eaten, which undergo decay with the absorption of poisonous products. The free use of the potato as an article of diet in place of the excessive consumption of meat and fish, a practice widely prevalent, would unquestionably check the alarming rapid development of this disease, which, according to the United States mortality reports has increased four hundred per cent in the last ten years.

"The potato, buttermilk, and oatmeal diet of the Irish has developed one of the most sturdy and enduring races of men to be found anywhere. The proportion of centenarians in Ireland is more than ten times as great as in England. There can be no doubt that the free use of potatoes by the Irish is in large measure responsible for the remarkable longevity of this nation.

"The idea that the potato is difficult of digestion and thus gives rise to fermentation in the stomach is entirely erroneous. The fault is not

with the potato but with the manner of eating. When acted upon by the saliva, the starch of the potato is converted into maltoes and dextrin, which Palow of St. Petersburg has shown to be powerful stimulants of the glands of the stomach. Properly cooked and well chewed, the potato is thus not only a good food but an aid to the digestion of other foods. In persons whose stomachs have a tendency to produce excessive acids the stimulating effect of the potato may be great as to produce the symptoms characteristic of hyperacidity, heartburn, tenderness of the stomach, regurgitation of gas and acid liquid, and other well known symptoms. This difficulty is not at all due to fermentation but an excessive amount of acid and the resulting spasmodic contraction of the pylorus, so the stomach is stimulated to violent contraction. The gas contained in the stomach cannot be forced downward in the proper direction, and so escapes upward. The difficulty is not likely to occur, however, except when chewing is neglected. The gastric juice has little action upon the potato. Coarse particles of potato may remain in the stomach many hours, causing excessive acid fermentation, irritation and eructations. In eating potato every morsel must be chewed until reduced to a smooth paste in which no coarse particles can be detected by the tongue.

"The remedy is simple. Palow has shown that fats lessen the activity of the stomach in the secretion of gastric juice. Hence, it is only necessary to increase the amount of fat eaten with the potato. In extreme cases the potato should be eaten in the form of a puree with the addition of butter or rich cream. This difficulty is especially noticeable in persons who have habitually eaten large quantities of meat when they undertake to change their eating habits, taking less meat and more cereals and potatoes. With a change in eating habit, the unpleasant symptoms usually disappear in a short time.

"Some persons find it necessary to avoid the use of tomatoes and acid fruits and potatoes. The apparent disagreement of the potato with acid fruits is chiefly due to neglect to thoroughly masticate the food. If the potato is eaten in the form of puree or well mashed, and if the fruit is also in the form of puree or if pains are taken to masticate it very thoroughly inconvenience from the combination will be rarely, if ever, experienced.

"The potato should always be cooked with the 'jacket' on. The mineral salts of the potato so valuable to health are just under the skin and if the potato is peeled before cooking the salts are thrown away."

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1912

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING

GILMAN M. DAME.....COMMISSIONER
JAMES W. HELMEDEPUTY COMMISSIONER
FERN L. SHANNONSTATE ANALYST
M. J. SMITHCHIEF CLERK

ADULTERATED SAUSAGE.

In the year 1907 this Department issued a statement showing the growing tendency of sausage manufacturers to adulterate sausage by placing therein some form of cereal with added water.

The form of cereal generally used was Potato flour because that cereal will absorb and hold more water than any other kind. The efforts of this Department to stop this practice were frustrated at that time by Armour & Co., who brought suit in the Michigan courts to restrain the Department from enforcing any order against sausage with cereal. After some expensive and lengthy litigation the Michigan Supreme Court finally decided that sausage with cereal might be sold in Michigan provided that it was labeled "Sausage with Cereal," not only in the original package but also on the packages sold at retail to the consumer.

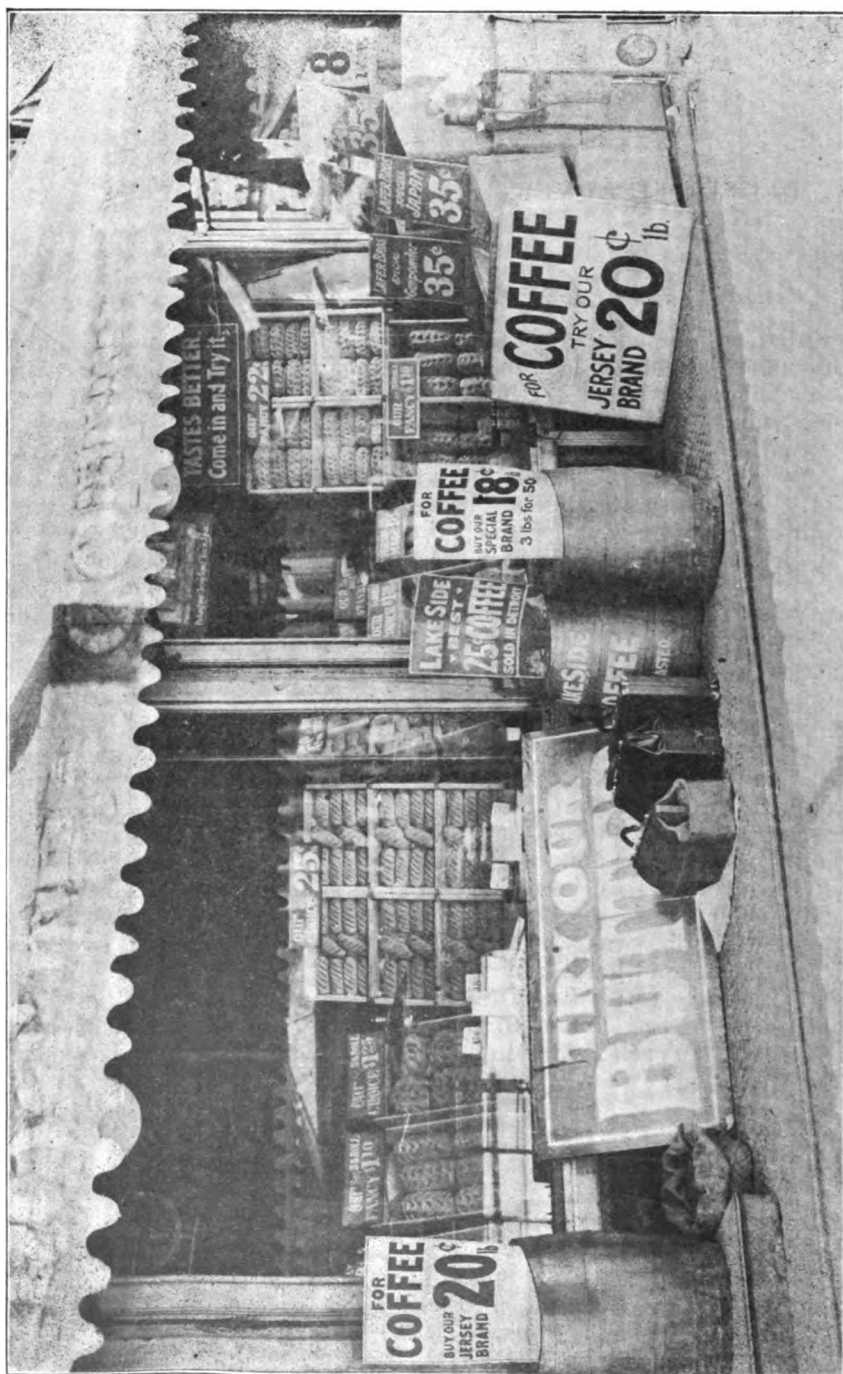
Unfortunately the Supreme Court did not determine the amount of cereal that might be placed in sausage. In Iowa 5% was allowed and Armour & Co. claimed to be using from 2 to 10% in their sausage.

But once the door is opened to the food adulterator, progress is swift and sure toward worse conditions. Ninety per cent of the cereal sausage now sold the consumer in this state by the retail dealer is not labeled. If 2 to 5% of cereal in sausage is a necessary and good thing, the manufacturer soon took the advanced ground that more is better. Consequently conditions have grown rapidly worse since the decision. How much worse is shown by the following facts.

On the 20th day of December, 1912, the Commissioner of this Department was called up by phone at the Detroit office by Mrs. E. Pepke, 280 West Grand Boulevard, who stated something was the matter with her sausage. The sausage was purchased in a stall in the Central Market. The inspector at once called at the address and obtained some of the sausage complained of. An analysis of this unofficial sample showed the presence of 22% cereal in the uncooked sausage and 17% in the cooked sausage. Upon receiving the report of the State Analyst on this sample Inspector Whipple of Detroit, was instructed to trace down the sausage to its manufacturer and obtain direct from him an official sample for analysis. This was done and Inspector Whipple forwarded to this Department a sample of sausage obtained from a stall in the Central Market, the sausage being manufactured by the "Clover Top" Sausage Co. of Detroit. The following is the report of the State Chemist on this sample:

"Hon. James W. Helme, State Dairy & Food Commissioner:

I herewith report on the analysis of sample of Pork Sausage K-168. The cereal used in this sausage is corn flour, therefore the 16% of starch indicates 20 to 25% of the original flour. Taking into consideration the moisture content as 45% and allowing for the use of about 2 to 3% spices, etc., this analysis would then indicate that the sausage was composed of about the following ingredients:



Complaint was made against Lafer before Justice Stein by the writer. The first complaint was quashed as defective and on a second complaint Lafer was bound over for trial to the Recorders Court.

On a trial in the Recorders Court the case was quashed by Judge Connelly on the ground that the title of the law was defective. The act is entitled "An act in relation to the manufacture and sale of Oleo-margarine or imitation butter." Judge Connelly held that the title should have mentioned "advertising" as well as "manufacture and sale," and not doing so the section of the law relative to advertising was void.

Now advertising an article is simply a part of the sale. It is soliciting a purchase by print instead of the primitive verbal method. Believing the decision wrong, this Department caused mandamus proceedings to be commenced in the supreme court to compel Judge Connelly to try the case which proceedings are still pending.

On May 7th, 1912, the writer had a picture of the store front of Lafer Bros. at Cadillac Square taken, which is shown in this bulletin. Note in the picture the large display of rolls of Oleo in each window.

On being questioned by the writer Lafer admitted that the entire display was Oleo, that not a pound of butter was displayed in the window, nor was the word Oleo anywhere in sight. Note the sign under the window in big letters "TRY OUR BUTTER."

On the awning in the picture will be seen a black shadow; this is caused by the figure of an enormous Jersey Cow.

The display, advertisement and signs all taken together were well calculated to deceive thousands of consumers into the idea that they were getting butter at a cut-rate price, when in fact they were getting a low grade of Oleo that cost the dealer about 14c wholesale.

Pending the decision of the Supreme Court, the Deputy Commissioner took up the matter of this deceptive advertising with the Detroit newspapers publishing the same, on the ground that they ought not to be parties in deceiving their readers by publishing these ads. The News, Journal and Times promptly complied with the request of the Department and refused to publish the advertisement in question.

Other merchants called the attention of this Department to the fact that Lafer was advertising to sell Coffee at 18 and 20c per pound, when the cheapest coffee costs the wholesaler 21c in car lots. The Department proceeded to investigate this charge. Recurring to the cut of Lafer's store published herewith, two barrels will be noted; on one is a large placard which states "For coffee buy our Jersey brand, 20c." On the other barrel is a placard which reads "For Coffee buy our special brand, 18c, 3 pounds for 50c." Each of these barrels contained a large amount of coffee in the kernel enclosed by a glass top.

A close inspection would show some ground coffee, but nine-tenths of the contents of the barrel appeared to be coffee kernels of extra good quality. An inspector of this Department was instructed to buy a pound of this 18c brand *in the kernel*. He was informed the firm had none on hand although it advertises that it grinds and roasts its own coffee. The inspector then called for "a pound of the 18c coffee ground." It was given him in a paper sack with the flap turned down several times. On opening the sack at the office on the side of the sack well turned under were found the words "COFFEE COMPOUND," showing it to be an adulteration and not pure coffee.

The words were placed on the sack where they would seldom if ever be noticed by the average consumer.

Advertisements of these "coffees" are still being published in some Detroit papers. There is no law to prevent this kind of deceptive advertising. We believe there should be and this Department will ask the coming legislature to pass a law prohibiting the deceptive advertising of all food products sold within the state.

The man who sells adulterated clothing can at the most do you financial injury, but the man who sells you adulterated food products not only does you a financial injury but may injure your health and that of your family. For this reason Michigan should have a stringent law against the deceptive advertising of food products.

FORMIC ACID IN FRUIT PRODUCTS.

BY F. L. SHANNON.

(Paper read before the Sixteenth Annual Convention of the American Association of Food, Dairy and Drug Officials.)

It was quite by accident that during an investigation into the character of the fruit products offered for sale at the soda fountains, ice cream parlors, etc., throughout the State of Michigan, the author came upon a sample of fruit syrups that was claimed to contain no preservative, but which would outlast all others in keeping qualities. From previous experience with soda fountain products such a condition could only point to one of two things; either the acme of perfection had been reached in the manufacture and handling of fruit products or the product contained something which exerted a prohibitive tendency to fermentative changes, the growth of molds, etc. The first condition could readily be dispensed with, as we all know that it is an impossibility to prepare a fruit syrup or crushed fruit that will keep any length of time, when exposed at room temperature in an open dish, unless we add some chemical preservative. This product, however, when allowed to stand for weeks in an open dish along side of a home-made product, would not spoil, while the home-made sample would spoil in a few days. Again when part of the market sample was mixed with the home-made sample, the keeping qualities of the latter were remarkably prolonged. It was therefore quite evident that something had been added to prevent it from changing. An analysis proved that it did not contain any of the nine common preservatives or any of the artificial sweeteners, viz.: benzoic acid, salicylic acid, boric acid, sulphurous acid, hydrofluoric acid, fluoboric acid, naphthol, sulphonie acid, formaldehyde, saccharin, or dulcin. So then the preservative was not one of the ordinary substances used in such products.

One of the chief characteristics of the fruit product was the marked tart or sour taste, when compared to other fruit syrups. This, coupled with the fact that most all preservatives are acid in character lead me to believe that the substance used was no doubt an acid or acid in nature. The determination of the total acidity confirmed in a measure this assumption, as Table II will show.

Most acids used for the purpose are of a volatile nature and are readily removed by steam distillation. Accordingly when this sample was subjected to steam distillation the distillate reacted strongly acid. This then showed two things: First, that the unknown substance was probably an acid, and, secondly, that the acid was volatile.

Of the volatile acids that possess preservative powers and one which has been discussed more or less in the past year, is formic acid, consequently my attention was at once directed to it.

A resume of the literature on formic acid revealed the fact that it

has been used for sometime in Germany and England for the preservation of fruit juices, fruit syrups, etc., but it appears not to have received much attention from manufacturers of fruit products in this country.

It has been the general belief among chemists, however, that some preservative other than the ones found, were being used in these products and investigations have been made in various laboratories throughout the country for the purpose of determining the identity of the substance used. Smith, in 1907, found formic acid in a sample of French cherries, but this seems to be the only time formic acid has been found in food products in the United States as a preservative. A number have suspected its use in fruit products and have built up their investigations with that substance in mind, but because of the unsatisfactory and indirect methods of identification and further owing to the fact that many substances respond to these indirect methods, it has been difficult to reach a positive conclusion.

It was found that the methods for the detection of formic acid did not depend on its isolation and subsequent identification, but rather upon the indirect method of its reducing power, principally upon silver nitrate and mercuric chloride. Experiments, however, proved that this could not be taken as positive evidence, as it was found that a number of substances would give a distillate that would reduce both silver nitrate and mercuric chloride. Phosphoric acid, simple syrup, fruit syrups, etc., which were known not to contain any formic acid, when steam distilled, were all found to give a distillate that would reduce these two solutions.

The most satisfactory method found for the positive identification of added formic acid in fruit products was the distillation method and the subsequent identification of the formic acid, first, by reducing it to formaldehyde with pure magnesium ribbon and sulphuric acid, and the identification of the formaldehyde and secondly, by making the insoluble lead salt and its identification both chemically and crystallographically. The details of both these methods will be found in an article published in the July number of the Journal of Industrial and Engineering Chemistry and Bull. No. 200 Michigan Dairy and Food Department, under the heading, "The Detection of Formic Acid in Fruit Products." But in order that we may have the benefit of any suggestions or criticisms that any member of this honorable body may offer, I shall go over these methods as published:

"To about 200-500 c.c. of the syrup or crushed fruit in a 2-litre long-necked, round bottom flask provided with a Reitmeier bulb, add about 50-100 c.c. of water. Subject to steam distillation, collecting the distillate (usually about 2,500 c.c.) until it ceases to give an acid reaction with litmus. Neutralize with $N/1$ Na OH, using litmus as an indicator. Evaporate on a steam bath to about 50 c.c., transferring from the large evaporating dish to smaller ones as the volume decreases. Transfer to an Erlenmeyer flask provided with a glass tube about three feet long as an air condenser, add a few pieces of pure magnesium ribbon or wire and a slight excess of dilute sulphuric acid, set in a cool place for an hour, adding diluted sulphuric acid through the tube from time to time as the reaction ceases. Transfer to a suitable distilling flask and

collect the first 10cc. of the distillate, which will contain most of the formaldehyde if the original syrup contained formic acid."

There are a number of methods used for the detection of formaldehyde and nearly every analyst has his favorite test, however, the methods which proved the most satisfactory in this work were Leach's method, Phloroglucol method, Rimini's method, and the Rescorcin method of the United States Pharmacopoeia. A positive reaction with these four tests was considered conclusive evidence of the presence of formaldehyde.

CRYSTALLOGRAPHIC IDENTIFICATION.

Inasmuch as practically all methods for the detection of formic acid previously reported are indirect methods depending upon the decomposition of formic acid or upon its reducing powers, it seemed desirable to attempt the isolation of formic acid in the form of an insoluble salt.

The usual procedure in determining the identity of an organic acid in plants is to prepare some readily crystallizable salt, sparingly soluble in water. Of the various formates the lead salt crystallizes readily without water of crystallization, is very stable and requires 63 parts of water for solution. The formation and identification of lead formate would then constitute a direct and positive proof of the presence of formic acid. After numerous attempts the following procedure was adopted.

Steam distill about 1,000-1,200 c.c. of the syrup as in the first operation, collecting the distillate (2,500-3,000 c.c.) in a receiving flask to which about 5 c.c. of lead hydrate cream has been added. Shake the flask occasionally and as the lead hydrate is dissolved add a few c.c. more, until all the formic acid is combined. Concentrate the liquid in a large dish and set aside in a dessicator. If formic acid was present in the original material, needle-like crystals of lead formates will form. Wash the crystals with absolute alcohol to remove any lead acetate which may be present, spread on a filter paper and dry. To the crystals apply the following tests:

- a. Aqueous solution will reduce AgNO_3 upon warming.
- b. Aqueous solution will reduce HgCl_2 solution upon warming.
- c. Aqueous solution will reduce platinum chloride upon warming.
- d. To a portion of the crystals in a dry test tube add sulphuric acid and warm. Carbon monoxide is generated, which will burn in the tube with a blue flame when ignited.
- e. Transfer some of the crystals to a small distilling flask, treat with conc. phosphoric acid and distillate. The distillate which is formic acid, will react as follows:
 1. Acid to litmus and acid to taste.
 2. Reduces silver nitrate on warming.
 3. Reduces mercuric chloride on warming.
 4. Reduces platinum chloride on warming.
 5. Is reduced to formaldehyde by a magnesium wire and sulphuric acid.

As previously mentioned, it was found that when phosphoric acid and water alone were distilled the distillate would reduce silver nitrate and

mercuric chloride solutions. Therefore before test (e) was carried out the phosphoric acid was subjected to distillation until it no longer gave a distillate that would reduce silver nitrate and mercuric chloride solutions. The crystals of the lead compound were then added and the distillation continued.

Although the chemical evidence of the volatile acid obtained from the fruit products used in this investigation is conclusive, it was thought desirable to submit the crystals to Dr. Edward H. Karus, Professor of Geology and Mineralogy, University of Michigan, and he concludes as follows:

"The crystallographic-Optical properties, together with the fact that a distinct reaction for lead is easily obtained upon the plaster tablet with the blow-pipe indicate conclusively that the substance examined is lead formate."

To further substantiate the proof a number of fruit syrups that were known to contain no added formic acid were subjected to steam distillation and an attempt made to separate a lead compound. In some instances a few crystals were obtained but at no time would the crystals give the characteristic test for lead formate.

QUANTITATIVE DETERMINATION.

After conclusively proving the presence of added formic acid in fruit products obviously the next step was to determine, if possible, the amount used.

A review of the literature shows that the methods generally used for this determination depend upon the following reactions:

1. The reduction of mercuric chloride to mercurous chloride, the excess of the mercuric chloride solution being titrated back with Potassium Iodide solution, (Auerbacher and Pluddeman,¹ or by weighing the insoluble mercurous chloride (Franzen and Egger),² (Finke).³
2. The action of Conc. sulphuric acid measuring evolved Co. (Wagner).⁴
3. The reduction KMnO_4 in alkaline solution (Klein).⁵
4. The reduction of Platinic Chloride solution with the subsequent weighing of the Metallic Platinum (Bacon).⁶

The Platinum method being one of the latest methods proposed and one that seemed to present the least chance for sources of error, was the first one employed. However, after a number of determinations were made, the results of which were not at all satisfactory, this method was abandoned. The greatest difficulty that the author experienced with this method was in obtaining a reduction of the Platinum chloride to take place at all times. Occasionally the reduction would go on readily and would be complete in one hour, while again it was often found necessary to boil the solution containing the formic acid with the plati-

¹Zeit. Nahr. Genussm. 17, 425.

²Journ. Praktische Chemie 83, 323.

³Zeit. Nahr. Genussm. 31, 1, 22, 88-104.

⁴Zeit. Analyt. Chemie 42, 427.

⁵Analyt. 1906, 31, 410.

⁶Circ. 74, U. S. Dept. Agric. Bur. of Chemistry.

num chloride for five to six hours before any reduction was noticed. Further, it seemed impossible to get many results to check concordantly.

The reduction of mercuric chloride solution seems to have been given the greatest amount of attention of all the remaining methods and a great amount of work has been done in its perfection, although at the present time, owing to the fact that there are many things which reduce mercuric chloride in acid solution it is not an absolute quantitative method. Experiments with it show, however, that very close results can be obtained. The method used in the experiments reported here was practically that of Frazen & Eggra, and was carried out as follows:

Preparation of Modified Mercuric Chloride Solution:

HgCl ₂	200 grammes.
NaC ₅ H ₃ O ₂	300 grammes.
NaCl	80 grammes.

Dissolve in 1,000 c.c. of water. Let stand 48 hours and decant supernatant liquid.

To a weighed portion of the sample (50-60 gms.) in a 2-litre round bottom flask add distilled water until the volume of the whole is about 100 c.c., subject to steam distillation, collecting the distillate until it ceases to react acid. (Usually about 1,500-2,000 c.c.). Some precaution must be taken to keep the material in the distilling flask, from caramelizing and the volume must not be allowed to increase. Exactly neutralize the distillate with N/L NaOH using litmus as an indicator, evaporate to 50-60 c.c. on a water or steam bath, keeping the reaction constantly alkaline throughout the entire evaporation. Filter the solution into an Erlenmeyer flask and add dilute hydrochloric acid until slightly acid. For every .5 gms. of formic acid present per litre of distillate, add 50 c.c. of the modified mercuric chloride solution. Attach to a reflex condenser and heat the flask in a bath for three or four hours in which the entire flask is surrounded with steam. Collect the mercurous chloride, dry and weigh.

This method was carried out on a number of fruit syrups, the results of which are given below:

PRELIMINARY WORK—TABLE I.

Sample No.	Kind of Syrup.	Formic Acid Added.	Formic Acid found by HgCl ₂ method.
1.	Blank (water)	0.34917	0.34828
2.	Simple Syrup	0.0000	0.0093
3.	Simple Syrup	0.087	0.085
4.	Simple Syrup	0.070	0.062
5.	Simple Syrup	0.2204	0.2020
6.	Pineapple Syrup, containing 0.1% Na Benzoate	0.2246	0.268
7.	Strawberry Syrup, containing 0.1% Na Benzoate	0.2314	0.2508

TABLE II.

Sample No.	Kind of Syrup.	Total Acidity expressed as H_2SO_4	Formic Acid found by $Hg Cl_2$
8.	Pineapple	0.555	0.219
9.	Pineapple	0.562	0.251
10.	Pineapple	0.552	0.267
11.	Pineapple	0.529	0.283
12.	Strawberry	0.505	0.172
13.	Strawberry	0.525	0.173
14.	Strawberry	0.499	0.176
15.	Claret	0.357	0.008
16.	Pineapple	0.355	0.005
17.	Strawberry	0.355	0.014
18.	Strawberry	0.274	0.020
19.	Pineapple	0.270	0.011
20.	Pineapple	0.250	0.004
21.	Pineapple	0.209	0.004
22.	Pineapple	0.195	0.007
23.	Pineapple	0.174	0.004
24.	Strawberry	0.186	0.008
25.	Imitation banana	0.016	0.005

The statement previously made, viz., that the mercuric chloride method is not absolutely accurate when carried out in the manner described above now becomes evident. As it will be noted that simple syrup alone gives a distillate capable of reducing mercuric chloride. However, samples Nos. 8, 9, 10, 11, 12, 13 and 14 gave an abundant amount of formaldehyde and lead formate and can be reported as positively containing added formic acid in considerable amount.

It would then seem that the formation of formaldehyde, coupled with the formation of lead formate and their subsequent identification would furnish a conclusive and positive proof of the presence of formic acid, and that the mercuric method is the most reliable method for determining the amount used.

The author is indebted to Mr. A. R. Todd of this laboratory for assistance in the work herein reported, and also to Dr. Edward H. Krause, of the University of Michigan, for his co-operation.

INSPECTIONS.

The following places were visited by the Department's inspection force during the months of September and October, 1912:

Adrian, Ahmeek, Alamo, Albion, Algonac, Algonquin, Allegan, Allen-ville, Allouez, Alma, Alpena, Ann Arbor, Armada, Ashton, Atlantic, Augusta, Au Sable, Baltic, Bancroft, Bannister, Bark River, Battle Creek, Bay City, Belding, Bellevue, Benton Harbor, Berrien Springs, Birch Run, Blackmar, Boon, Boyne City, Brimley, Bronson, Brown City, Buchanan, Burlington, Burton, Cadillac, Calumet, Carland, Carleton, Caro, Cassopolis, Centennial Heights, Centennial, Charlotte, Chelsea, Chippewa, Clare, Clarkston, Clinton, Clio, Coleman, Colon, Constantine, Cook Mills, Copper City, Corunna, Dearborn, Deckerville, Deerfield, Detroit, Dighton, Dodgeville, Dollar Bay, Dorr, Dowagiac, Downingtown, Dundee, Durand, East Tawas, Eaton Rapids, Elsie, Escanaba, North Escanaba, Essexville, Eureka, Evart, Farmington, Farwell, Fenton, Flint, Forest Grove, Fowlerville, Frankenmuth, Galesburg, Garden, Gladstone, Goodrich, Graafschap, Grand Ledge, Grand Rapids, Grandville, Grass Lake, Harris, Hart, Hastings, Hersey, Hilliards, Hillsdale, Holland, Holloway, Holly, Homer, Hopkins, Houghton, Hurontown, Ida, Ionia, Iron Mountain, Ishpeming, Ithaca, Jackson, Jamestown, Jennings, Jonesville, Kalamazoo, Kearsarge, Kipling, Lake, Lake City, Lake George, Lake Linden, Lake Odessa, Lansing, Lawton, Lennox, LeRoy, Leslie, Linden, Lucus, Ludington, Manchester, Manistique, Marcellus, Marine City, Marlette, Marquette, Marshall, Mason, Maybee, Mayville, Menominee, Middleville, Midland, Milan, Milford, Mohawk, Moline, Monroe, Moran, Morrice, Mt. Clemens, Mt. Pleasant, Muskegon, Nashville, New Baltimore, Niles, Northville, Opechee, Orion, Otsego, Oxford, Owosso, Painesdale, Parma, Pentwater, Perronville, Perry, Petersburg, Pickford, Pinconning, Plainwell, Plymouth, Pontiac, Portland, Pt. Huron, Rapid River, Red Star Corners, Reed City, Richmond, Ridgway, Ripley, River Rouge, Rives Junction, Rochester, Rudyard, Saginaw, Salem, Saranac, Saugatuck, Schaffer, Schoolcraft, Scottville, Sebewaing, Shepherd, Silverwood, South Haven, South Range, South Rockwood, Standish, St. Clair, St. Ignace, St. Johns, Sturgis, Sutton's Bay, Tawas City, Tecumseh, Tekonsha, Three Rivers, Traverse City, Trenton, Trimountain, Tustin, Union City, Utica, Vans Harbor, Vermontville, Vernon, Vicksburg, Vriesland, Wayland, Wayne, Wells, Whitehall, White Pigeon, Whitney, Williamsburg, Williamston, Willard, Woodland, Wyandotte, Yale, Ypsilanti, Zeeland.

PROSECUTIONS.

Since beginning of fiscal year, July 1, 1912.

Cases pending September 1, 1912.....	5
Cases commenced since said date.....	17

CASES DISPOSED OF.

Before examining magistrates:

Defendants bound over	0
Defendants discharged	0

In trial courts:

Defendants convicted	16
Defendants acquitted	0

Cases pending November 1.....	6
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In the case pending in the circuit court, county of Van Buren, against M. S. Carney of Paw Paw, charged with selling Tr. iodine not in conformity with legal requirements. October 25, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made September 6, in justice court, city of Jackson, against M. Clancy, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made September 10, in justice court in and for the city of Monroe, against Ellis Jacobs, charged with selling ice cream below the legal standard. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made September 11, in justice court, city of Ionia, against George Collier, charged with using sulphites as a preservative in meat products. Defendant entered a plea of guilty. Fined costs.

Complaint was made September 12, in justice court, village of South Range, against Mareo Landini, charged with manufacturing and selling ice cream without first procuring a State license. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made September 16, in justice court, city of Benton Harbor, against Gust Baldaccini, charged with selling ice cream below the legal standard. Defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made September 16, in justice court, city of Benton Harbor, against H. O. Wilson, charged with selling ice cream below the legal standard. Defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made September 17, in justice court, city of Berrien Springs, against Ivan Carrel, charged with selling ice cream below the legal standard. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made September 17, in justice court, city of Benton Harbor, against Twin City Creamery Co., charged with selling ice cream below the legal standard. Defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made September 18, in justice court, city of Calumet, against Christopher Trevarrow, charged with selling milk from which cream had been removed. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made September 23, in justice court, city of Bay City, against Archie Gates, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made September 23, in justice court, city of Monroe, against John Mayer, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made October 2, in justice court, city of Detroit, against Julius Newman, charged with selling adulterated milk. October 10, defendant entered a plea of guilty. Fined \$25.

Complaint was made October 12, in justice court of Milan, Monroe county, against Alfred Kindle, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made October 16, in justice court, city of Flint, against Levi Cooley, Clio R. F. D. No. 1, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made October 17, in justice court of Lake Odessa, against Ralph Henney, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made October 28, in justice court, city of Hillsdale, against Alfred Godfrey, charged with selling adulterated milk. Case pending.

Complaint was made October 29, in police court of Detroit, against Harry Lamkin, charged with selling adulterated coffee. Case pending.

Hon. G. M. Dame, State Dairy and Food Commissioner, Lansing, Michigan:

Dear Sir—I herewith beg to hand you my report on the work done in the Department Laboratory during the months of September and October. A total of 376 samples were examined, including 318 foods, drinks, linseed oils, etc., and 58 drugs.

Of the 318 samples of foods, drinks, linseed oils, etc., 204 of them were milk, 50 of which were found adulterated. 33 were classed as impure for the reason that they contained visible dirt in excessive amounts, 9 contained added water and 4 were skimmed.

Forty-five samples of ice cream were submitted, 24 or about 53% of which fell below the standard required by law. The percent of samples found below standard during the months of September and October is the highest of all during the entire ice cream season. During May and June about 40% of the samples submitted were below standard, while July and August only showed 11% running under the required 12%.

Thirteen samples of Olive Oil were analyzed. 5 were found to be adulterated with cotton-seed oil. This form of adulteration a few years ago was quite common and considerable of the olive oil sold was either a mixture of cotton-seed oil and olive oil or cotton-seed oil alone. But in late years this practice seems to have been abandoned to a great extent. It is rather surprising to find samples of new goods adulterated in this manner.

Fifty-eight drug samples were examined, 30 of which were found not to comply with the provisions of the Drug Law. Of this number 20 were samples of carbolic acid and 15 of them were found not to comply with the standard laid down by the U. S. P. The great difficulty here seems to be in a misunderstanding of the Drug Law. Under the Drug Act the U. S. P. and the N. F. are given as standards, therefore it follows that when a drug does not comply with the standard set by either of these works it does not comply with the law. Carbolic acid is recognized by the U. S. P. in two forms; as crystalline carbolic acid—"bearing the official title of Phenol and as liquified carbolic acid bearing the official title of "Phenol Liquefactum." The first, then when sold as such, must contain, to conform to the U. S. P. and the Drug Law, not less than 96% of absolute Phenol, while the second, when sold as such, must contain not less than 86.4% absolute phenol. But carbolic acid containing 96% absolute phenol is seldom sold by a druggist and even the U. S. P. Liquified Carbolic Acid is too strong. Consequently there is a demand for a weaker solution and the druggist in trying to supply this demand sells a solution of carbolic acid that does not conform to either of the two standards; but in so doing fails to take note of the law and sells it under a label generally bearing the words, "Carbolic Acid" or "Carbolic Acid U. S. P." consequently when this preparation comes to this laboratory for analysis and it is found to contain less than 96% absolute carbolic acid it is adulterated within the meaning of the Drug Act. Here is where I believe the Drug Law is generally misunderstood. Section 3 of the Drug Act contains a proviso to meet just such cases as this which reads as follows: "Provided, That no drug defined in

the United States Pharmacopoeia or National Formulary shall be deemed to be adulterated under this provision if the standard of strength, quality or purity be plainly stated upon the principal label of the bottle, box or other container thereof, although the standard may differ from that determined by the test laid down in the United States Pharmacopoeia or National Formulary."

Therefore a druggist to sell any drug recognized by the U. S. P., or N. F., but which does not conform to the standard laid down by these books must plainly state the percent strength of the drug on the label. Thus to sell a 5% solution of carbolic acid it should be labeled, "Carbolic Acid Solution," "Absolute Carbolic Acid 5%." Then if the preparation sold under this label contains 5% of absolute carbolic acid it will comply with the law.

Yours very respectfully,

F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated or misbranded.	Found adulterated or misbranded.
Butter.....	6	1	5
Canned goods.....	3		3
Catsup.....	1		1
Cider.....	2	2	
Cocoa.....	1	1	
Coffee (blend).....	2		2
Cream of tartar.....	2	2	
Flavoring preparations.....	6	3	3
Hamburg steak.....	10	8	2
Horse radish.....	1	1	
Ice cream.....	45	21	24
Jellies, jams, etc.....	4	3	1
Linseed oil.....	3		3
Milk.....	204	154	50
Mustard (prepared).....	1	1	
Olive oil.....	13	8	5
Soft drinks.....	3	3	
Syrups.....	4	1	3
Vinegar.....	7	4	3
Totals.....	318	213	105

DRUGS

Article.	Total.	Not found adulterated or misbranded.	Found adulterated or misbranded.
Alcohol.....	1		1
Camphorated Oil.....	1		1
Carbolic Acid.....	20	5	15
Spirits Nitre.....	6	2	4
Spirits Peppermint.....	3	1	2
Tincture Iodine.....	2		2
Tincture Opium.....	22	11	11
Proprietary Preparations.....	3	1	2
Totals.....	58	20	38

ANALYSES OF SAMPLES.

BUTTER.

No. 25326, P-532. Sample of "butter" procured from restaurant table of Chas. Peckham, Lansing. Sample is oleomargarine. No sign displayed.

No. 25327, P-533. Sample of "butter" procured from restaurant table of Chas. Peckham, Lansing. Sample is oleomargarine. No sign displayed.

No. 25581, G-842. Sample of "butter" taken from dining table of the Minneapolis restaurant, James Tampas, proprietor, Sault Ste. Marie. Sample is oleomargarine. Legal sign not displayed.

No. 25582, G-843. Sample of "butter" taken from dining table of the American restaurant, Geo. Catsapia, proprietor, Sault Ste. Marie. Sample is oleomargarine. Legal sign not displayed.

No. 25584, G-845. Sample of "butter" taken from dining table of the Boston restaurant, Geo. Michel, proprietor, Sault Ste. Marie. Sample is oleomargarine. Legal sign not displayed.

CANNED GOODS.

No. 25028, I-1683. Sample of Mixed French Vegetables handled by Reis & Brady, New York, and procured from Michael Morris, Jackson. Sample contained copper sulphite, a substance held to be injurious to health.

No. 25271, U-321. Sample of tomatoes (canned) put up by J. Frank Lednum, Preston, Md., and handled by Ararat Grocery Co., Boston, Mass., as jobbers. Product contains an abundance of starch and is improperly labeled.

No. 25540, S-650. Sample of canned peas put up by the John Boyle Co., Baltimore, Md., handled by Grosberg & Reuter, Detroit, as jobbers and procured from Lamkin Bros., Detroit. Soaked goods not properly labeled.

CATSUP.

No. 24996, S-613. Sample of catsup sold by the Horton-Cato Co., Detroit, to the Home of the Feeble-Minded and Epileptic, Flint. Product contains benzoic acid or salts thereof not stated on the label.

COFFEE.

No. 25539, S-649. Sample of "Blend Coffee" sold by Lamkin Bros., Detroit. Product consists of a mixture of whole coffee berries adulterated with wheat middlings.

No. 25590, S-655. Sample of "Blend Coffee" sold by Lamkin Bros., Detroit. Product consists of a mixture of whole coffee berries adulterated with wheat middlings.

FLAVORING PREPARATIONS.

25240, I-1694. Sample of vanilla extract manufactured by Baldwin & Son, Fort Wayne, Ind., and procured from Kaiser Bros., Adrian. Sample is imitation vanilla. Misbranded.

No. 25407, S-631. Sample of extract of lemon manufactured by Schorndorfer & Eberhard Co., Cleveland, Ohio, and procured from the Flint Tea Co., Flint. Below standard in oil of lemon.

No. 25541, S-651. Sample of "Vanilla & Vanillin" manufactured by The Newton Tea & Spice Co., Cincinnati, Ohio, and procured from Bloomfield & Porter, Detroit. Misbranded.

HAMBURG STEAK.

No. 25419, V-319. Sample of Hamburg Steak manufactured and sold by W. G. Longe & Son, Ionia. Product contains added sulphurous acid or salts thereof. Held to be injurious to health.

No. 25583, G-844. Sample of Hamburg Steak manufactured and sold by J. H. Moher, Sault Ste. Marie. Product contains added sulphurous acid or salts thereof, not permissible in food products.

ICE CREAM.

No. 25139, P-472. Sample of ice cream manufactured by the Twin City Creamery Co., Benton Harbor, and sold by Harry J. Bernard, Berrien Springs. Butter fat 5.4%. Below standard.

No. 25144, P-474. Sample of ice cream manufactured and sold by Ivan Carrel, Berrien Springs. Butter fat 9.8%. Below standard.

No. 25146, P-476. Sample of ice cream manufactured by H. O. Wilson, St. Joseph, and sold by Rice & Wannamaker, Benton Harbor. Butter fat 7.6%. Below standard.

No. 25147, P-477. Sample of ice cream manufactured by E. E. Rouse, Benton Harbor, and sold by H. L. Bird, Benton Harbor. Butter fat 10.3%. Below standard.

No. 25148, P-478. Sample of ice cream manufactured by E. E. Rouse, Benton Harbor, and sold by Geo. Baccash, Benton Harbor. Butter fat 9.4%. Below standard.

No. 25149, P-479. Sample of ice cream manufactured by the Twin City Creamery Co., Benton Harbor and sold by F. F. Connell, Benton Harbor. Butter fat 7.6%. Below standard.

No. 25150, P-480. Sample of ice cream manufactured by the Twin City Creamery Co., Benton Harbor and sold by Wiggins & Butsbach, Benton Harbor. Butter fat 6.8%. Below standard.

No. 25151, P-481. Sample of ice cream manufactured by the Twin City Creamery Co., Benton Harbor. Butter fat 6.9%. Below standard.

No. 25166, G-806. Sample of ice cream manufactured and sold by Harper & Thomas, Calumet. Butter fat 9.2%. Below standard.

No. 25182, G-822. Sample of ice cream manufactured by Bridgeman & Russell, Hancock and sold by A. E. McAlister, Hancock. Butter fat 10.9%. Below standard.

No. 25189, P-488. Sample of ice cream manufactured and sold by Gust Baldaccini, St. Joseph. Butter fat 7.6%. Below standard.

No. 25219, P-497. Sample of ice cream manufactured and sold by Chas. E. Abell, South Haven. Butter fat 8.5%. Below standard.

No. 25220, P-498. Sample of ice cream manufactured and sold by the South Haven Ice Cream Co., South Haven. Butter fat 8.5%. Below standard.

No. 25256, W-157. Sample of ice cream manufactured and sold by A. G. Michos, Ypsilanti. Butter fat 10%. Below standard.

No. 25269, G-826. Sample of ice cream manufactured and sold by Marco Landini, Calumet. Butter fat 9.6%. Below standard.

No. 25277, P-504. Sample of ice cream manufactured by R. W. Calkins, Holland, and sold by A. DeKruif, Zeeland. Butter fat 10%. Below standard.

No. 25279, P-506. Sample of ice cream manufactured by the West Michigan Ice Cream Co., Grand Rapids, and sold by H. Fabiano, Zeeland. Butter fat 9.8%. Below standard.

No. 25280, P-507. Sample of ice cream manufactured by Brink Bros., Holland, and sold by Haan Bros., Zeeland. Butter fat 7.2%. Below standard.

No. 25300, P-525. Sample of ice cream manufactured and sold by Brink Bros., Holland. Butter fat 10.8%. Below standard.

No. 25302, P-528. Sample of ice cream manufactured by the West Side Ice Cream Co., Grand Rapids, and sold by C. W. Parrish, Saugatuck. Butter fat 8.4%. Below standard.

No. 25303, P-529. Sample of ice cream manufactured by Rudell Creamery, Grand Rapids. Butter fat 11.3%. Below standard.

No. 25304, P-530. Sample of ice cream manufactured by Myers & Voss, Saugatuck, and sold by R. A. Roda, Saugatuck. Butter fat 5.6%. Below standard.

No. 25371, S-628. Sample of ice cream manufactured by the Connor Ice Cream Co., Owosso. Butter fat 10%. Below standard.

No. 25424, P-573. Sample of ice cream manufactured by the Fassett Ice Cream Co., Jackson, and sold by J. W. Bradshaw, Marshall. Butter fat 8.4%. Below standard.

JAM.

No. 25411, S-635. Sample of jam manufactured by McMechen Preserving Co., Wheeling, W. Va., handled by the National Grocer Co., Lansing, and sold by Harry Johnson, Durand. Misbranded.

LINSEED OIL.

No. 24985, I-1682. Sample of boiled linseed oil handled by the Great Western Oil Co., Grand Rapids, and procured from Strong Bros., Homer. Sample adulterated with a petroleum product.

No. 25096, U-310. Sample of "pure raw linseed oil" manufactured by the National Linseed Co., Cleveland, Ohio, and procured from the Columbia Western Mills, 957 Hubbard Ave., Detroit. Sample adulterated with a petroleum product.

No. 25097, U-311. Sample of "pure boiled linseed oil" manufactured by the National Linseed Co., Cleveland, Ohio, and procured from the Columbia Western Mills, Detroit. Sample is adulterated with a petroleum product.

MILK.

No. 24988, N-86. Sample of milk from Frank Markowski, Alpena. Contains an excessive amount of visible dirt.

No. 24992, N-90. Sample of milk procured from C. N. Daggett, Alpena. Sample contains added water.

No. 25078, N-100. Sample of milk procured from Duncan Campbell, Elkton, R. F. D. No. 1. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 25086, G-750. Sample of milk procured from Mary Aechscheu, Iron Mountain. Contains an excessive amount of dirt.

No. 25087, G-751. Sample of milk procured from Alex Anderson, Iron Mountain. Contains an excessive amount of dirt.

No. 25095, Z-435. Sample of milk procured from John Mayer, Monroe. Below standard in specific gravity and total solids. Sample contains about 10% of added water.

No. 25104, G-765. Sample of milk procured from A. Hanson, Ishpeming. Contains an excessive amount of dirt.

No. 25131, G-786. Sample of milk procured from Christ Trevarow, Laurium. Below standard in total solids and butter fat. Sample is skimmed milk.

No. 25134, G-789. Sample of milk procured from Wm. Heikkela, Laurium. Contains an excessive amount of dirt.

No. 25141, N-108. Sample of milk procured from F. W. Reid, Bay City. Contains an excessive amount of dirt.

No. 25154, G-794. Sample of milk procured from Jos. Koski, Calumet. Contains an excessive amount of dirt.

No. 25155, G-795. Sample of milk procured from James Colombo, Calumet. Contains an excessive amount of dirt.

No. 25156, G-796. Sample of milk procured from Dominie Sandretto, Calumet. Contains an excessive amount of dirt.

No. 25158, G-798. Sample of milk procured from Morrison estate, Calumet. Contains an excessive amount of dirt.

No. 25170, G-810. Sample of milk procured from John Zurcher, Houghton. Contains an excessive amount of dirt.

No. 25171, G-811. Sample of milk procured from Sylvester Sandretto, Hancock. Contains an excessive amount of dirt.

25204, Z-437. Sample of milk procured from Alfred Kindle, Milan. Below standard in specific gravity, butter fat and total solids. Contains about 30% added water.

No. 25209, N-110. Sample of milk procured from Levi Cooley, Olio, R. F. D. No. 1. Below standard in specific gravity, butter fat and total solids. Sample contains an excessive amount of dirt and about 35% of added water.

No. 25215, P-493. Sample of milk procured from Teske Bros., South Haven. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 25245, N-112. Sample of milk procured from Archie Gates, Bay City, R. F. D. No. 3. Below standard in specific gravity and total solids. Contains about 15% added water.

No. 25265, N-117. Sample of milk procured from Frank Markowski, Alpena. Below standard in specific gravity and total solids. Contains about 7% added water.

No. 25267, N-119. Sample of milk procured from Charles Steel, Alpena. Milk unsafe.

No. 25274, P-501. Sample of milk procured from Henry Scholten, Zeeland R. F. D. No. 5. Contains an excessive amount of visible dirt.

No. 25276, P-503. Sample of milk procured from John Diekama, Zeeland. Contains an excessive amount of visible dirt.

No. 25278, P-505. Sample of milk procured from Henry Scholten, Zeeland, R. F. D. No. 5, contains an excessive amount of visible dirt.

No. 25284, P-509. Sample of milk procured from Jacob Schaap, Holland. Contains an excessive amount of visible dirt.

No. 25288, P-513. Sample of milk procured from J. Sagggers, Holland. Contains an excessive amount of visible dirt.

No. 25294, P-519. Sample of milk procured from Gerrit Oonk, Holland. Contains an excessive amount of visible dirt.

No. 25324, N-122. Sample of milk procured from the Sanitary Restaurant, Flint. Below standard in butter fat and total solids. Above standard in specific gravity. A part of the cream has been removed.

No. 25334, P-538. Sample of milk procured from James Ketcham, Lake Odessa. Contains an excessive amount of dirt.

No. 25335, P-539. Sample of milk procured from Walter Lee, Saranac. Contains an excessive amount of visible dirt.

No. 25343, P-547. Sample of milk procured from J. C. Wagoman, Woodland. Contains an excessive amount of visible dirt.

No. 25346, P-550. Sample of milk procured from Frank Shriber, Hastings R. F. D. No. 3. Contains an excessive amount of visible dirt.

No. 25347, P-551. Sample of milk procured from O. Pickens. Contains an excessive amount of visible dirt.

No. 25348, P-552. Sample of milk procured from O. Bacheldor, Lake Odessa. Contains an excessive amount of visible dirt.

No. 25350, P-554. Sample of milk procured from C. Kine, Hastings R. F. D. No. 3. Below standard in butter fat.

No. 25352, P-556. Sample of milk procured from Joseph Smith, Hastings. Below standard in butter fat.

No. 25354, P-558. Sample of milk procured from Chas. Mower, Lake Odessa. Contains an excessive amount of dirt.

No. 25365, P-569. Sample of milk procured from R. Henney, Lake Odessa. Below standard in specific gravity and total solids. Contains about 20% added water.

No. 25366, P-570. Sample of milk procured from R. Henney, Lake Odessa. Below standard in specific gravity and total solids. Contains about 25% added water.

No. 25378, N-129. Sample of milk procured from Frank Bates, Port Huron. Contains an excessive amount of dirt.

No. 25426, P-575. Sample of milk procured from Geo. E. Brosholm, Marshall. Contains an excessive amount of dirt.

No. 25456, P-591. Sample of milk procured from A. J. White, Battle Creek. Contains an excessive amount of dirt.

No. 25457, P-592. Sample of milk procured from A. J. White, Battle Creek. Contains an excessive amount of dirt.

No. 25458, P-593. Sample of milk procured from A. J. White, Battle Creek. Contains an excessive amount of dirt.

No. 25462, N-143. Sample of milk procured from Christ Winter, Sebewaing, R. F. D. No. 1. Contains an excessive amount of dirt.

No. 25463, N-144. Sample of milk procured from Herman Gremel, Sebewaing, R. F. D. No. 1. Contains an excessive amount of dirt.

No. 25477, G-833. Sample of milk procured from M. Hendrickson, Escanaba. Contains an excessive amount of dirt.

No. 25533, Z-439. Sample of milk procured from Alfred Godfrey, Jonesville. Below standard in specific gravity, butter fat and total solids. Contains about 35% added water.

No. 25535, Z-441. Sample of milk procured from Amanuel Denning, Jonesville. Below standard in butter fat and total solids.

OLIVE OIL.

No. 25313, S-618. Sample of olive oil distributed by the Direct Importing Co., Boston, and procured from the Hankow Tea Co., Lansing. Not a pure olive oil. Adulterated.

No. 25431, P-579. Sample of olive oil distributed by the Direct Importing Co., Boston, and procured from the Hankow Tea Co., Battle Creek. Sample contains cottonseed oil as an adulterant.

No. 25449, S-638. Sample of olive oil distributed by the Direct Importing Co., Boston, and procured from the Hankow Tea Co., Grand Rapids. Sample contains cottonseed oil as an adulterant.

No. 25450, S-639. Sample of olive oil distributed by the Direct Importing Co., Boston, procured from the Hankow Tea Co., Detroit. Sample contains cottonseed oil.

No. 25451, S-640. Sample of salad oil distributed by the Direct Importing Co., Boston, and procured from the Hankow Tea Co., Detroit. Sample consists in part of cottonseed oil.

SYRUPS.

No. 25206, I-1686. Sample of Snow Drift Syrup manufactured by the Union Starch Refining Co., Edinburg, Ind., handled by W. A. Bartley, Toledo, Ohio, and procured from Andrew Murray, Monroe. Misbranded.

No. 25239, I-1692. Sample of Corn Syrup manufactured by the J. C. Hubinger Bros., New Haven, Conn., handled by Harnit & Hewitt, Toledo, and procured from W. F. Weisenger & Son, Deerfield. Misbranded.

No. 25414, I-1704. Sample of Table Syrup sold by the Feilbach Co., Toledo, Ohio, and procured from R. W. Boyd & Co., Adrian. Misbranded.

VINEGAR.

No. 25124, I-1684. Sample of cider vinegar procured from Cogan & Metty, Erie. Below standard in total solids and acidity.

No. 25270, U-313. Sample of "Pure Cider Vinegar" manufactured by Wm. W. Vaughan Co., Detroit, and procured from Geo. Masrob, Detroit. Not a pure cider vinegar but consists wholly or in part of a dilute acetic acid or distilled vinegar and foreign mineral matter in imitation of genuine cider vinegar.

No. 25306, I-1695. Sample of cider vinegar manufactured and sold by J. S. Rodgers, Adrian. Below standard in total acidity.

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surround- ings.
Barry County, September:					
Middleville Cooperative Creamery Co...	Middleville.....	F. O. Stokes.....		312,000	Good...
Clinton County, September:					
Fowler Creamery Co.....	Fowler.....	Geller & Edinger.....		159,242	Good...
Grand Traverse County, September:					
Traverse City Creamery.....	Traverse City.....	W. A. McCool.....		157,000	Fair....
Ionia County, September:					
Pewamo Creamery Co.....	Pewamo.....	Jas. Love.....		107,000	Fair....
Allegan County, October:					
Daisy Creamery Co.....	Graafschap.....	H. Boeve.....	1,212,164	100,217	Fair....
Hilliards Creamery Co.....	Hilliards.....	F. Jankowski.....	3,654,000	217,000	Fair....
Hopkins Creamery Co.....	Hopkins.....	A. Patton.....	2,187,914	119,147	Good....
Moline Creamery Co.....	Moline.....	G. Hoeve.....	1,240,000	84,360	Good....
Otsego Creamery Co.....	Otsego.....	A. Bertram.....		97,000	Fair....
Overton Creamery Co.....	Allegan.....	G. Overton.....		148,000	Good....
Overton Creamery Co.....	Dorr.....	G. Overton.....		142,000	Good....
Wayland Creamery Co.....	Wayland.....	A. Abbott.....	1,847,640	104,283	Good....
Delta County, October:					
Bark River Creamery.....	Bark River.....	P. Labre.....			Good...
Garden Creamery Co.....	Garden.....	H. Deloria.....		13,000	Good...
Genesee County, October:					
Goodrich Dairy Association.....	Goodrich.....	S. Pierson.....		168,000	Fair....
Grafton County, October:					
Central Michigan Produce Co.....	Alma.....	G. Perry.....		1,555,000	Good...
Ithaca Creamery.....	Ithaca.....	Doran & McBride.....		165,000	Fair....
Hillsdale County, October:					
Jackson Cream Station.....	Jonesville.....	G. B. Mason.....			Good...
Ionia County, October:					
Saranac Creamery.....	Saranac.....	H. Pickens.....		70,000	Good...
Isabella County, October:					
Shepherd Creamery.....	Shepherd.....	C. Hokemeyer.....		89,418	Good...
Jackson County, October:					
Fowler Creamery.....	Jackson.....	J. Fowler.....	420,000		Good...
Jackson City Creamery.....	Jackson.....	F. Allen.....			Excell..
Kent County, October:					
Boylard Creamery Co.....	Grand Rapids.....	J. Boyland.....		182,000	Fair....
Rudell Creamery.....	Grand Rapids.....	Mrs. Rudell.....		125,000	Good....
Monroe County, October:					
Carleton Skimming Station.....	Carleton.....	Chas. Kehres.....	1,500,000		Good...
Maybee Cream Receiving Station.....	Maybee.....	Medina Co. Creamery.....			Good...
Maybee Skimming Station.....	Maybee.....	Towars Creamery.....	2,450,000		Good...
Ogemaw County, October:					
West Branch Creamery.....	West Branch.....	I. Jones.....		128,000	Good...

CREAMERIES.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean...	Good...	.....	.....	.....	Good...	.....	Fair...	Good...	Good...	Good...	.....	93
Clean...	.....	.....	.....	.....	Good...	.....	Fair...	Good...	Good...	Good...	.....	92
Clean...	Fair...	.....	.....	.....	Good...	.....	Fair...	Good...	Good...	Good...	.....	91
Clean...	Fair...	.....	.....	.....	Fair...	.....	Fair...	Fair...	Fair...	Fair...	.....	.....
Clean...	Clean...	Clean...	Good...	.....	Good...	Clean...	Fair...	Clean...	Good...	Good...	.....	92
Clean...	Fair...	Good...	Good...	Fair...	Fair...	Clean...	Fair...	Good...	Good...	Good...	.....	94
Clean...	Fair...	Good...	Good...	.....	Good...	.....	Fair...	Good...	Fair...	Fair...	Good...	93
Clean...	Clean...	Good...	Good...	.....	Good...	Clean...	Good...	Good...	Good...	Good...	.....	92
Clean...	Fair...	Fair...	.....	.....	Good...	.....	Fair...	Good...	Good...	Good...	.....	92
Clean...	Good...	Good...	Good...	.....	Good...	.....	Good...	Good...	Good...	Good...	.....	94
Clean...	Clean...	Good...	Good...	.....	Good...	Clean...	Fair...	Good...	Good...	Good...	.....	94
Clean...	Good...	Good...	Good...	.....	Good...	Clean...	Fair...	Good...	Good...	Good...	.....	.....
Good...	Good...	.....	Good...	Good...	Good...	.....	.....	Good...	Good...	Good...	.....	.....
Good...	.....	.....	.....	.....	Good...	.....	.....	Good...	Good...	Good...	.....	.....
Clean...	Fair...	Good...	Good...	.....	Fair...	.....	Fair...	Fair...	Fair...	Fair...	.....	93
Clean...	Good...	.....	.....	Good...	Good...	.....	Good...	Good...	Good...	Good...	.....	.....
Clean...	Fair...	Good...	Good...	.....	Good...	.....	Fair...	Good...	Good...	Fair...	.....	92
Good...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fair...	.....
Clean...	Fair...	.....	.....	Good...	Fair...	.....	Fair...	Good...	Good...	Good...	.....	92
Clean...	Good...	.....	.....	.....	Good...	.....	Fair...	Good...	Good...	Good...	.....	93
Good...	.....	Good...	Good...	Good...	Good...	.....	Good...	Good...	.....	Good...	Good...	95
Clean...	Clean...	.....	.....	.....	Good...	.....	Fair...	Fair...	Good...	Good...	.....	90
Clean...	Good...	.....	.....	.....	Good...	.....	Good...	Good...	Good...	Good...	.....	.....
Good...	Good...	Good...	Good...	Good...	Clean...	Clean...	Good...	.....	Good...	Good...	Good...	.....
Good...	Good...	Good...	Fair...	.....	Clean...	Clean...	Fair...	.....	Good...	Good...	Good...	.....
Good...	.....	.....	.....	.....	Good...	.....	Fair...	Good...	Good...	Fair...	.....	92

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surroundings.
Ottawa County, October:					
Holland Crystal Creamery.....	Holland.....	C. Lokker & Co.....	5,279,829	175,238	Good...
Interurban Creamery.....	Jamestown.....	J. Van Rhee.....	3,011,214	188,219	Good...
Jamestown Creamery Co.....	Forest Grove.....	J. Nyenhuis.....	6,112,241	3,009,118	Good...
Vriesland Creamery.....	Vriesland.....	H. Rock.....	2,397,754	110,547	Good...
Sanilac County, October:					
Red Star Creamery.....	Marlette.....	H. Barsland.....		125,267	Good...
Washtenaw County, October:					
George Currie Milk Depot.....	Ann Arbor.....	G. Currie.....	243,200		Good...
James McCalla Milk Depot.....	Ann Arbor.....	J. McCalla.....	200,000		Good...
J. P. O'Hara.....	Ann Arbor.....	J. P. O'Hara.....	36,600		Good...
Riverside Creamery.....	Milan.....	W. Allen.....	3,500,000		Good...
Stony Creek Skimming Station.....	Stony Creek.....	Ypsilanti Dairy Assoc.....	1,500,000		Good...
Towar Cream Station.....	Milan.....	W. Bedford.....	14,400		Fair...
Wurster Creamery.....	Ann Arbor.....	J. F. Wurster.....	1,440,000		Good...
Ypsilanti Dairy Association.....	Ypsilanti.....	S. Wiard.....	9,019,801	364,017	Good...

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese.	Style.
Saginaw County, September:					
Buena Vista Cheese Co.....	Buena Vista.....	L. Baumgartner.....			Michigan Soft.
Hillsdale County, October:					
Cheese Factory.....	Milnes Corners.....	Gerald Elliott.....	400,000	45,000	Michigan....
Ottawa County, October:					
Zeeland Cheese & Butter Factory..	Zeeland.....	Phoenix Cheese Co.....			
Saginaw County, October:					
Wilson Cheese Factory.....	Clio.....	F. L. Kent.....	1,116,000	116,874	Michigan Soft.

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean...	Clean...	Good...	Good...	Good...	Fair...	Clean...	Fair...	Good...	Good...	Good...	Good...	92
Clean...	Good...	Good...	Good...	Good...	Good...	Clean...	Fair...	Good...	Good...	Good...	Good...	92
Clean...	Good...	Good...	Good...	Good...	Good...	Clean...	Fair...	Good...	Good...	Good...	Good...	92
Clean...	Clean...	Good...	Good...	Good...	Fair...	Clean...	Fair...	Fair...	Good...	Good...	Good...	93
Clean...	Good...	Good...	Good...	Good...	Good...	Good...	Fair...	Clean...	Good...	Good...	Good...	90
Good...	Good...	Good...	Good...	Good...	Good...	Good...	Good...	Good...	Good...	Good...	Fair...	
Good...	Fair...	Good...	Good...	Good...	Fair...	Fair...	Good...	Good...	Good...	Good...	Good...	
Good...	Good...	Good...	Good...	Good...	Good...	Clean...	Good...	Good...	Good...	Good...	Good...	
Fair...	Good...	Good...	Good...	Good...	Good...	Good...	Good...	Good...	Good...	Good...	Fair...	
Good...	Good...	Good...	Good...	Good...	Good...	Clean...	Good...	Fair...	Good...	Good...	Good...	94

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
G. List.....	Bad.....	2, poor...	1		Bad.....	Marshall..	6 H. P.	Fair.....	
Gerald Elliott.....	Fair.....	1, good...	1		Fair.....	Yes.....	4 H. P.	Fair.....	Natural.
Henry Edelman.....	Good.....	10, good..	8	Yes.....			150 H. P.	Fair.....	
W. J. Curtis.....	Good.....	3, good...	2		Fair.....	Marshall..	8 H. P.	Good.....	

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Daily production of milk in pounds.	Breed.
Kalamazoo County, September:						
Walter DeWaten	Kalamazoo	Self.	4	3	.....	Mixed.
J. C. Knight	Kalamazoo	Kalamazoo Creamery Co.	19	17	.....	Mixed.
Peatling & Slack	Kalamazoo	Dairymans Milk Co.	12	10	.....	Mixed.
Macomb County, September:						
Charkier Bros.	Mt. Clemens .....	.....	10	10	200	Graded.
Lewis Hammon	Mt. Clemens .....	.....	6	6	125	Graded.
Wm. Lowenstein	Mt. Clemens	Chesterfield Creamery.	16	12	220	Graded.
H. A. Reimold	Mt. Clemens .....	.....	15	14	225	Graded.
Tom Shumaker	Mt. Clemens	Park Hotel.	13	10	200	Graded.
Edward Verstyn	Mt. Clemens	Chesterfield Creamery.	6	5	100	Graded.
Chas. Winkler	Mt. Clemens	Chesterfield Creamery.	11	10	180	Graded.
Monroe County, September:						
Alfred Kindle	Maybee	Riverside Creamery.	3	2	25	Graded.
Ottawa County, September:						
J. Barense	Zeeland	Self.	13	6	.....	Mixed.
Egbert Bowrman	Zeeland	John Posma.	8	6	.....	Mixed.
Henry Geertling	Holland	Henry Diekama.	12	12	.....	Mixed.
John Klammer	Zeeland	Self.	6	6	.....	Mixed.
John Posma	Holland	Self.	7	6	.....	Mixed.
Richard Root	Zeeland	Henry Diekama.	4	4	.....	Mixed.
Orie Schaap	Holland	Self.	16	13	.....	Mixed.
Henry Scholten	Zeeland	Self.	19	14	.....	Mixed.
Van Buren County, September:						
Judson Bailey	South Haven	Teake Bros.	9	9	.....	Mixed.
John Lunell	South Haven	Teake Bros.	1	1	.....	Jersey.
Geo. H. Marshall	South Haven	Teake Bros.	8	8	.....	Jersey.
John A. Peterson	South Haven	Teake Bros.	1	1	.....	Mixed.
R. O. Piper	South Haven	Teake Bros.	7	6	.....	Mixed.
Dell Prentiss	South Haven	Teake Bros.	5	5	.....	Mixed.
Walter H. Skinner	South Haven	Teake Bros.	5	5	.....	Mixed.
John Stephenson	South Haven	Teake Bros.	10	10	.....	Mixed.
J. F. Straneky	South Haven	Self.	5	5	.....	Mixed.
Claude Sundstrom	South Haven	Teake Bros.	5	5	.....	Mixed.
Oliver Teake	South Haven	Teake Bros.	7	6	.....	Mixed.
Frank Warner	South Haven	Teake Bros.	8	6	.....	Mixed.
Wm. Whittelsey	South Haven	Teake Bros.	2	2	.....	Mixed.
Calhoun County, October:						
Calhoun County Farm	Marshall .....	.....	11	7	.....	Mixed.
L. Hume	Battle Creek	Milk Producers Co.	9	6	.....	Mixed.
Townsend & Son	Marshall	Self.	15	13	.....	Mixed.
Hilledale County, October:						
C. E. Baird	Hilledale	Retail dealer.	17	13	220	Graded.
Geo. Benson	Jonesville	Gerald Elliott.	2	2	25	Graded.
Vern Brown	Jonesville	Gerald Elliott.	8	8	120	Graded.
Joe Coon	Jonesville	Gerald Elliott.	6	6	50	Graded.
Frank Coon	Jonesville	Gerald Elliott.	4	4	50	Graded.
Chas. Coon	Jonesville	Gerald Elliott.	2	2	25	Graded.
Joe Denning	Jonesville	Gerald Elliott.	4	3	32	Graded.
Emanuel Denning	Jonesville	Gerald Elliott.	5	5	40	Graded.
Earl Denning	Jonesville	Gerald Elliott.	5	5	80	Graded.
W. B. Fuller	Jonesville	Gerald Elliott.	9	6	100	Graded.

DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Pasture.....	No.....	Door-windows-cracks.....	Poor....	Yes....	Drive well.
Pasture, silage.....	Medium	Door-windows.....	Medium	Medium	Drive well.
Pasture, corn meal.....	No.....	Door-window.....	Poor....	Yes....	Drive well.
Pasture, mill feed.....	No.....	Doors-windows.....	Fair....	Yes....	Tubular well.
Pasture.....	Yes.....	Doors-windows.....	Fair....	Yes....	Tubular well.
Pasture, brewery grains.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Pasture.....	No.....	Doors-windows.....	Fair....	Fair....	Tubular well.
Pasture, green corn.....	No.....	Doors-windows.....	Fair....	Fair....	Tubular well.
Pasture, green corn.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Pasture, green corn.....	No.....	Doors-windows.....	Fair....	Yes....	Tubular well.
Pasture, green corn.....	No.....	Door.....	No....	Fair....	Tubular well.
Pasture.....	No.....	Door-windows.....	Medium	Yes....	Drive well.
Pasture.....	No.....	Door-window.....	Poor....	Yes....	Drive well.
Pasture.....	No.....	Door-window.....	Medium	Yes....	Drive well.
Pasture, hay.....	Yes.....	Door-window.....	Yes....	Yes....	Open well.
Pasture.....	No.....	Door-window.....	Fair....	Yes....	Open well.
Pasture.....	Yes.....	Door-windows.....	Yes....	Yes....	Open well.
Pasture, hay.....	Yes.....	Door-windows.....	Yes....	Yes....	Open well.
Pasture.....	Medium	Door-windows.....	Fair....	Yes....	Drive well.
Pasture, hay, corn, bran.....	Yes.....	Door-windows.....	Poor....	Yes....	Drive well.
Pasture, middlings.....	No.....	Door-windows.....	No....	Yes....	Drive well.
Pasture.....	No.....	Door-windows.....	Poor....	Yes....	Drive well.
Pasture.....	No.....	Door-windows.....	Fair....	Yes....	Drive well.
Pasture, cornmeal, bran.....	No.....	Door-windows.....	No....	Yes....	Drive well.
Pasture.....	No.....	Door-windows.....	Poor....	Yes....	Open well.
Pasture.....	No.....	Door-windows.....	Poor....	Yes....	Drive well.
Pasture, hay.....	No.....	Door-windows.....	Fair....	Yes....	Open well.
Pasture, green corn.....	No.....	Door-windows.....	Poor....	Yes....	Drive well.
Pasture, green corn.....	No.....	Door-windows.....	Poor....	Yes....	Drive well.
Pasture, green fodder.....	No.....	Door-windows.....	Poor....	Yes....	Drive well.
Pasture, green corn.....	No.....	Door-window.....	Poor....	Yes....	Drive well.
Pasture, fodder.....	Medium	Door.....	No.....	Medium	Drive well.
Pasture, green corn fodder.....	Medium	Door.....	No.....	Yes....	Drive well.
Pasture, fodder, barley, bran.....	Medium	Door-windows.....	Medium	Yes....	Drive well.
Pasture, ensilage, corn.....	Fair....	Adjustable windows.....	Yes....	Yes....	Tubular well.
Pasture, green corn.....	Fair....	Door-windows.....	Fair....	Yes....	Tubular well.
Pasture.....	Fair....	Door-windows.....	Yes....	Yes....	Drive well.
Pasture, green corn, corn.....	Fair....	Door-windows.....	No.....	Yes....	Drive well.
Pasture, green corn.....	Fair....	Door-windows-shutes.....	No.....	Yes....	Tubular well.
Pasture, corn.....	No.....	Door-windows.....	No.....	Fair....	Tubular well.
Pasture.....	Yes.....	Door-windows.....	Yes....	Yes....	Drive well.
Pasture.....	No.....	Door-windows.....	No.....	Fair....	Drive well.
Pasture.....	No.....	Door-windows.....	No.....	Yes....	Tubular well.
Pasture, silage, oats.....	Fair....	Door-windows.....	Fair....	Yes....	Tubular well.

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Daily production of milk in pounds.	Breed.
Hillsdale County—Continued.						
A. E. Garlinghouse.	Jonesville.	Gerald Elliott.	2	2	25	Graded.
Alfred Godfrey.	Jonesville.	Gerald Elliott.	5	5	111	Graded.
W. S. Hergert.	Jonesville.	Gerald Elliott.	4	4	50	Graded.
Edd. Houseknecht.	Jonesville.	Gerald Elliott.	7	7	100	Graded.
Elsworth Lovell.	Jonesville.	Litchfield Dairy Association.	8	4	80	Graded.
Ed. Sawday.	Jonesville.	Gerald Elliott.	4	3	25	Graded.
Kalamazoo County, October:						
C. J. Case.	Augusta.	Battle Creek Sanitarium.	10	9		Mixed.
T. E. Godde.	Augusta.	Milk Producers Co.	11	7		Mixed.
Carl F. Holder.	Augusta.	Parker Drug Co.	8	7		Mixed.
Chris Jensen.	Kalamazoo.	Fred Wheaton.	9	9		Mixed.
Clark Northrup.	Augusta.	Clark Northrup.	9	7		Mixed.
F. J. Ralph.	Augusta.	Milk Producers Co.	16	13		Mixed.
Manly Vosburg.	Augusta.	Milk Producers Co.	7	6		Mixed.
Lenawee County, October:						
A. J. Allen.	Clinton.	William Wells.	5	4	50	Graded.
Fred Grabner.	Adrian.	Retail dealer.	5	4	20	Graded.
Geo. Heiminger.	Clinton.	William Wells Milk Depot.	11	9	100	Graded.
William Wells.	Clinton.	Retail dealer.	3	3	60	Graded.
Monroe County, October:						
J. C. Custer.	Monroe.	J. C. Sterling.	4	2	30	Graded.
Mrs. A. Dubois.	Monroe.	Retail dealer.	48	44		Graded.
John A. Henrich.	Monroe.	J. C. Sterling.	3	3	75	Graded.
John Herr.	Monroe.	J. C. Sterling.	6	4	80	Graded.
Martin Miller, lessee.	Monroe.	J. C. Sterling.	4	2	40	Graded.
J. Leidel.	Monroe.	J. C. Sterling.	6	3	60	Graded.
Geo. Mangus.	Milan.	Restaurant.	5	4	50	Graded.
Louis Navarre.	Monroe.	Duffy Navarre.	4	4	80	Graded.
Stephen Navarre.	Monroe.	Duffy Navarre.	4	4	80	Graded.
Duffy Navarre.	Monroe.	Retail dealer.	20	20	400	Graded.
Geo. Quell.	Monroe.	J. C. Sterling.	3	3	60	Graded.
Chas. Schriber.	Monroe.	Duffy Navarre.	3	3	75	Graded.
Stewart Bros.	Monroe.	Drew Milk Depot.	40	35	375	Graded.
Alf Van Wormer.	Milan.	Restaurant.	4	3	60	Graded.
James Weeman.	Monroe.	J. C. Sterling.	6	4	50	Graded.
Washtenaw County, October:						
O. A. Ainsworth.	Ypsilanti.	Retail milk dealer.	42	35		Graded.
W. F. Allen & Son.	Milan.	Lockwood & Eighme.	15	14	300	Graded.
Alonso Austin.	Ypsilanti.	O. A. Ainsworth.	13	11	150	Graded.
Del Begole.	Ypsilanti.	Retail dealer.	60	49	1,200	Graded.
Edward Besch.	Ann Arbor.	Wurster Bros.	14	13	400	Graded.
G. C. Bevier.	Ann Arbor.	Geo. Chalmers.	15	13	235	Graded.
Geo. Bird.	Ann Arbor.	Wurster Bros.	14	10	155	Graded.
J. G. Bohnet.	Ypsilanti.	H. G. Pretman.	22	18	450	Graded.
Henry Brown.	Ann Arbor.		9	7	140	Graded.
Elmer Brown.	Ypsilanti.	Retail milk dealer.	18	16	225	Graded.
Geo. Chalmers.	Ann Arbor.	Retails.	25	23	500	Guernseys & grades.
Cole Bros.	Ypsilanti.		24	20	690	Holsteins.
L. A. Gray.	Ypsilanti.	Store.	15	12	200	Jerseys-Grades.
Herman Haas.	Ann Arbor.	Herman Steabler.	8	4	60	Grades.
William Jetter.	Ann Arbor.	Frank Lerg.	12	7	100	Grades.
Mike Karney.	Ann Arbor.	Wurster Bros.	9	9	180	Grades.
Geo. Kinear.	Milan.	Retail milk dealer.	20	18	400	Hol.-grades.
Chas. Leverett.	Ypsilanti.	S. A. Wiard.	10	6	100	Jerseys-grades.
Chas. McCalla.	Ann Arbor.	George Currie.	14	12	200	Grades.
C. M. Morse.	Ann Arbor.		4	2	50	Grades.

DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Pasture.....	No.....		Yes.....	Fair....	Drive well.
Hay, pasture.....	Fair....	Door-windows.....	No.....	Yes....	Drive well.
Pasture, green corn.....	No.....	Door-windows.....	No.....	Fair....	Tubular well.
Pasture, green corn.....	No.....	Door-windows.....	Fair....	Yes....	Tubular well.
Pasture, ensilage, corn.....	Fair....	Door-windows.....	Fair....	Yes....	Tubular well.
Pasture.....	Fair....	Door-windows.....	No.....	Yes....	Drive well.
Pasture, green corn, fodder.....	Yes.....	Door-windows.....	Yes.....	Yes....	Drive well.
Pasture, green corn, fodder.....	No.....	Stairway-windows.....	Medium.....	Yes....	Drive well.
Pasture, silage, corn.....	Yes.....	Silo shaft.....	Medium.....	Yes....	Drive well.
Pasture.....	Yes.....	Door-windows.....	Medium.....	Yes....	Drive well.
Pasture, corn.....	No.....	Cracks.....	No.....	Yes....	Drive well.
Pasture.....	Medium.....	Silo shaft.....	Yes.....	Yes....	Drive well.
Pasture, green corn fodder.....	No.....	Door.....	No.....	Yes....	Drive well.
Pasture.....	No.....	Doors-windows.....	No.....	Fair....	Tubular well.
Pasture.....	No.....	Doors-windows.....	No.....	Fair....	Tubular well.
Pasture, bran.....	No.....	Doors-windows.....	No.....	Fair....	Tubular well.
Pasture, bran, corn.....					Tubular well.
Pasture, green corn, oats.....	Fair....	Doors-windows.....	No.....	Yes....	Tubular well.
Pasture, cornmeal, bran.....	Fair....	Doors-windows.....	Yes....	Fair....	Tubular well.
Pasture, green corn.....	Yes.....	Doors-windows.....	Fair....	Yes....	Tubular well.
Pasture, corn.....	Fair....	Doors-windows.....	Fair....	Yes....	Tubular well.
Pasture, corn, oats, bran.....	Fair....	Doors-windows.....	Yes....	Yes....	Tubular well.
Pasture.....	Fair....	Doors-windows.....	No.....	Yes....	Tubular well.
Pasture, hay, bran, corn.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Pasture, green corn.....					Tubular well.
Pasture.....	Fair....	Door-window.....	No.....	Fair....	Tubular well.
Pasture, bran, corn, oats.....	No.....	Door-window.....	Fair....	Fair....	Tubular well.
Pasture.....	Yes.....	Doors-windows.....	Fair....	Yes....	Tubular well.
Pasture, green corn.....	Yes.....		Yes....	Yes....	Tubular well.
Pasture, ensilage, corn.....	Yes.....	Doors-windows.....	Fair....	Fair....	Tubular well.
Hay, pasture, corn, oats.....	Fair....	Doors-windows.....	No.....	Fair....	Tubular well.
Pasture, beets, clover.....	Fair....	Doors-windows.....	No.....	Yes....	Tubular well.
Hay, ensilage, bran.....	Yes.....	Door-windows.....	Yes....	Yes....	Tubular well.
Pasture, oats, bran.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Pasture, corn, oats.....	Yes.....	Doors-windows.....	Fair....	Yes....	Tubular well.
Silage, hay, bran, oats.....	Yes.....	Doors-windows-ventilators.....	Yes....	Yes....	Tubular well.
Pasture, hay, corn.....	No.....	Doors-windows.....	Fair....	No.....	Tubular well.
Pasture, gluten.....	Fair....	Doors-windows.....	Fair....	Yes....	Tubular well.
Corn, oats, corn fodder.....	Fair....	Doors-windows.....	Fair....	Fair....	Tubular well.
Hay, bran, oats, corn.....	Yes.....	Doors-windows.....	Fair....	Yes....	Tubular well.
Pasture.....	Fair....	Doors-windows.....	Fair....	Yes....	Tubular well.
Ensilage, hay, corn.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Pasture, oats, corn.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Ensilage, oats, bran.....	Yes.....	King system.....	Yes....	Yes....	Tubular well.
Ensilage, corn, oats.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Pasture.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Pasture, corn.....	Fair....	Doors-windows.....	Yes....	Fair....	Tubular well.
Pasture, corn.....	Yes.....	Doors-windows.....	Yes....	Yes....	Tubular well.
Hay, bran, corn, oats.....	Yes.....	Doors-windows-shutes.....	Yes....	Yes....	Tubular well.
Green corn, corn.....	Yes.....	Doors-windows.....	Yes....	Fair....	Tubular well.
Pasture, ensilage.....	Fair....	Doors-windows.....	Yes....	Fair....	Tubular well.
Pasture.....	Fair....	Doors-windows.....	Fair....	Yes....	Tubular well.

INSPECTION OF

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Daily production of milk in pounds.	Breed.
Washtenaw Co.—Continued.						
Lewis Rice.....	Ypsilanti.....	Retails.....	27	19	300	Grades.....
Chas. Rose.....	Ann Arbor.....	Wurster Bros.....	15	10	200	Grades.....
H. A. Stabler.....	Ann Arbor.....	Retails.....	23	19	500	Grades.....
G. A. Waterman.....	Ann Arbor.....	Wurster Bros.....	24	20	400	Jerseys.....
W. A. Whitney.....	Ann Arbor.....	Wurster Bros.....	5	5	125	Grades.....

DAIRIES.

Ration.	Stable.			Cows kept clean.	Water,
	Clean and sanitary.	Ventilation.	Light.		
Pasture, gluten.....	Yes...	Doors-windows.....	Yes...	Fair...	Tubular well.
Ensilage, hay, gluten.....	Yes...	Doors-windows.....	Fair...	Yes...	Tubular well.
Pasture, ensilage, corn.....	Fair...	Doors-windows.....	Fair...	Yes...	Tubular well.
Ensilage, hay, gluten.....	Yes...	Doors-windows.....	Yes...	Yes...	Tubular well.
Pasture, hay, bran, oats.....	Fair...	Doors-windows.....	Fair...	Yes...	Tubular well.

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary conditions.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Alamo, Mich., September:											
Peatling & Slack	80	84	81	78	70	393	Poor				
Holland, Mich., September:											
Henry Geerling	79	60	78	78	90	385	Poor				
John Posma	88	86	82	80	90	426	Medium				
Richard Root	85	80	78	78	90	411	Medium				
Orie Schaap	90	94	83	85	90	442	Medium				
Kalamazoo, September:											
J. C. Knight	85	83	78	70	88	404	Medium				
Mt. Clemens, September:											
H. A. Reimold	83	83	71	70	97	404	Medium				
Tom Shumaker	83	83	71	70	97	404	Medium				
South Haven, September:											
Judson Bailey	85	91	79	78	90	423	Medium				
John Lunell	85	97	82	85	90	439	Medium				
Geo. H. Marshall	84	66	81	78	90	399	Poor				
John A. Peterson	84	84	82	79	90	419	Medium				
S. O. Piper	85	74	71	78	90	398	Poor				
Dell Prentiss	84	85	81	78	90	418	Medium				
Walter H. Skinner	84	85	81	78	90	418	Medium				
John Stephenson	84	58	78	78	80	378	Poor				
J. F. Stransky	80	68	43	63	74	328	Poor				
Claude Sundstrom	84	84	78	78	90	414	Medium				
Oliver Teske	80	65	81	78	90	394	Poor				
Frank Warner	84	81	82	79	90	416	Medium				
Wm. Whittelsey	79	84	83	79	90	415	Medium				
Zeeland, September:											
J. Barense	85	63	82	80	90	400	Medium				
Egbert Bowrman	20	28	70	78	90	286	Poor				
John Klamer	84	61	70	78	80	373	Poor				
Henry Scholten	90	82	78	70	87	407	Medium				
Adrian, October:											
Fred A. Grabner	78	60	63	69	80	350	Poor				
Ann Arbor, October:											
Del Begole	94	90	77	78	94	433	Medium	3.8	32	12.56	8.76
Edward Besch	74	45	72	69	93	353	Poor	3.4	31	11.83	8.43
G. C. Bevier	77	70	69	70	85	371	Poor	4.4	30	12.78	8.38
Geo. Bird	82	83	69	71	95	400	Medium	4	32	12.8	8.8
Geo. Chalmers	92	93	75	87	94	441	Medium	4	30	12.55	8.55
Herman Haas	85	70	74	71	88	388	Poor	4	31.5	11.87	7.87
William Jetter	77	70	66	65	80	358	Poor	4.2	30	12.54	8.34
Mike Karney	90	93	83	83	96	445	Medium	4	32	12.80	8.80
Chas. McCalla	80	80	77	71	91	399	Poor	4	30.5	12.42	8.42
Chas. Rose	84	82	72	71	93	402	Medium	4	33	13.05	9.05
H. A. Stabler	89	65	79	77	98	408	Medium	4.2	30	12.54	8.34
C. A. Waterman	88	85	70	94	95	432	Medium	5	32.5	14.12	8.12
W. A. Whitney	67	80	72	68	87	374	Poor	3.8	31	12.43	8.63

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary conditions.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Augusta, October:											
C. J. Case.....	90	91	84	78	90	433	Medium.....				
T. E. Godde.....	88	69	83	78	90	408	Medium.....				
Carl F. Holden.....	96	83	85	85	90	439	Medium.....				
Chris Jensen.....	88	81	83	78	87	417	Medium.....				
Clark C. Northrup.....	73	55	76	78	85	367	Poor.....				
F. J. Ralph.....	88	75	80	78	90	411	Medium.....				
M. Voeburg.....	74	55	75	78	90	372	Poor.....				
Battle Creek, October:											
L. Hume.....	79	73	81	78	89	400	Medium.....				
Clinton, October:											
A. J. Allen.....	72	75	69	70	80	366	Poor.....				
Geo. Heiminger.....	64	35	71	70	85	325	Poor.....				
William Wells.....	60	40	52	72	75	299	Poor.....	3.8	1.032	12.56	8.76
Jonesville, October:											
C. E. Baird.....	87	75	83	78	99	422	Medium.....	4	30	12.55	8.55
Lake Linden, October:											
Jos. Hennecke.....	95	80	90	95	100	460	Good.....	4.5	32	13.40	8.90
Fred Kappler.....	80	85	90	95	100	450	Good.....	4.6	31	13.27	9.67
Milan, October:											
W. F. Allen & Son.....	89	88	78	73	95	423	Medium.....	4.4	33	13.53	9.13
Geo. Kinear.....	89	85	89	93	97	453	Good.....	3.8	32	12.56	8.76
Geo. Mangus.....	88	93	81	80	90	432	Medium.....	4.4	32	12.80	8.80
Alf Van Wormer.....	72	75	71	70	70	358	Poor.....	4.4	32	13.28	8.88
Monroe, October:											
Mrs. A. Dubois.....	85	73	77	63	96	394	Poor.....	4	32	12.8	8.8
Duffy Navarre.....	78	65	81	74	93	391	Poor.....	3.6	32	12.32	8.72
Stephen Navarre.....	78	75	58	70	82	363	Poor.....	3.8	32	12.56	8.76
Chas. Schriber.....	75	73	70	71	80	369	Poor.....	3.8	32	12.56	8.76
Stewart Bros.....	87	74	72	69	82	384	Poor.....	3.8	32	12.56	8.76
Sault Ste. Marie, October:											
Harry Brown.....	90	85	90	95	100	460	Good.....	4.4	32.5	13.40	9.005
Williams & Erickson.....	85	95	90	95	95	460	Good.....	3.6	33	12.57	8.97
H. Hanson.....	90	80	85	85	100	440	Good.....	4.4	31.5	13.15	9.55
David Knox.....	95	95	90	95	90	465	Good.....				
Herbert Lee.....	95	100	90	95	100	480	Excellent.....	3.8	32.5	12.68	8.88
Mrs. Jos. Linke.....	95	100	90	95	95	475	Good.....	3.8	32	12.56	8.76
John MacKenzie.....											
D. J. Perry.....	90	95	85	95	100	465	Good.....	4.6	31	13.39	8.79
J. Quigley.....	90	90	90	85	90	445	Good.....	4.2	31	12.91	8.71
Ed. Siponiuski.....	95	70	85	80	100	430	Medium.....	4.8	32	13.04	9.84
Jas. Shannon.....	90	100	90	95	95	470	Good.....	3.8	32	12.56	8.76
Wm. Watson.....	90	80	90	95	95	450	Good.....	3.6	31	12.19	8.59
Ypsilanti, October:											
O. A. Ainsworth.....	85	95	85	80	97	442	Medium.....	4	32	12.80	8.80
Alonso Austin.....	82	89	77	80	93	421	Medium.....	4.4	33	13.53	9.13
J. G. Bohnet.....	82	85	78	80	85	410	Medium.....	4.4	32	13.28	8.88
Elmer Brown.....	91	93	81	78	97	440	Medium.....	4	32	12.80	8.80
Cole Bros.....											
L. A. Gray.....	80	85	78	78	93	414	Medium.....	4.4	32	13.28	8.84
Chas. Leverett.....	80	80	74	73	85	392	Poor.....	4.6	33	13.77	9.17
Lewis Rice.....	87	80	72	68	90	397	Poor.....	4	32	13.00	9.00

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Dairy and Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the laws' regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal.
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS.

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name; and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coined name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DAIRY LAWS.

UNWHOLESOME MILK AND CREAM.

Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspectors, that any person is using, selling or furnishing to any skimming station, creamery, cheese factory, condensed milk factory, milk depot, farm dairy, milk dealer, the retail trade, or to any consumer of milk, any impure or unwholesome milk or cream, caused by the unsanitary or filthy condition of the premises where cows are kept, or by the unsanitary or filthy care or handling of the cows, the use of unclean utensils, unwholesome food, or from any other cause, the person so offending shall be notified and warned by the Commissioner, his deputy, or inspectors not to use, sell or furnish such milk or cream at any of the places or to any of the persons above mentioned. A failure to obey such notice and warning and the continued sale of such milk is made a misdemeanor, punishable by fine or imprisonment or both.

SANITARY CONDITION.

Whenever it is determined by the Dairy and Food Commissioner that unsanitary conditions exist in the operation of any skimming station, creamery, cheese factory, condensed milk factory, milk depot, or farm dairy, the proprietor or manager of the same shall be notified and warned by the Commissioner, his deputy or inspectors, to place such skimming station, creamery, etc., in a sanitary condition. A failure to obey such notice and warning is made a misdemeanor, punishable by fine or imprisonment or both.

ADULTERATED MILK.

The removal of the cream or any part thereof, from milk to be sold as pure milk to any manufactory in which milk is used as a material in

the process of production, or in the adulteration of milk by the addition of water, chemicals, preservatives or any other foreign substance is made a misdemeanor and punishable by a fine or imprisonment or both.

REGISTRATION AND REPORT.

All factories, skimming stations or milk depots where milk or cream is received by purchase or otherwise from three or more persons, must register with the Dairy and Food Department, and file an annual report accompanied by a registration fee of five dollars on or before April 1st of each year.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1913

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
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1913

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING

JAMES W. HELME.....COMMISSIONER
FERN L. SHANNON.....STATE ANALYST
M. J. SMITH.....CHIEF CLERK
A. R. TODD.....DRUG ANALYST

THE MICHIGAN FOOD & HEALTH SPECIAL TRAIN.

One of the greatest educational features ever offered people of the state of Michigan was the food and health special train which just recently completed a tour of the lower peninsula. This train was sent out by the Michigan State Board of Health and the Dairy & Food Commission and brought a most forceful message to the hundreds who visited it.

The Dairy & Food Car was of keen interest and carried its lessons to every farmer, housewife, user and purchaser of foods and drugs. Commissioner James W. Helme's vigorous campaign against "cure-all" remedies, beauty lotions and other doubtful productions which have been placed upon the market is well known and a display of these articles was effectively presented. The purchaser was told just what is contained in the packages sold and its practical efficiency.

Many adulterated and impure foods were shown, foods that are being sold to unknowing purchasers. A new law, effective Aug. 14th, makes it unlawful to present any misleading advertisement. Specimens of such deceptive advertising were on display and purchasers learned that they have been paying fancy prices for oleomargarine under the belief that they were buying butter or securing chicory though paying for coffee.

Another law gives the Dairy & Food Department the authority to inspect weights and measures so the methods by which the purchaser has been cheated out of a goodly portion of what he paid for is unusually timely. On a regulation peck measure filled with potatoes was the placard "What he should get," on a partially filled measure was "What he does get" when the dealer uses the common bottomless measure while above six or eight potatoes was the telling legend "What he don't get." Berry boxes which cause the consumer to lose four quarts out of a bushel looked familiar. Dented measures, drilled weights and scales which had been tampered with were in display.

That some food manufacturers really evade the law governing the correct labeling of goods, was proven by the considerable number of packages which are often seen on the dealers' shelves. The use of copper sulphate in coloring vegetables was clearly demonstrated while coal tar colors that are used in candies were brought forcibly to your attention by seeing the pieces of wool yarn shown along with samples of candy, dyed with the dye which was extracted from the candy.

Considerable attention was paid to the dangers of impure milk and graphic illustrations of the filth which is found in this popular beverage are in evidence. A model dairy arrangement together with the latest equipment was especially interesting to farmers and dairymen. Among other things was seen a model of a cow stall which can be built by any farmer and is satisfactory from every standpoint. The importance

of milk as a food was impressed upon visitors by a comparison with other food values, making a most effective argument for the cheapness and nutriment of milk.

An exhibit of meat affected by tuberculosis was a source of educational interest to all. The specimens were taken from slaughtering establishments by Federal meat inspectors. In connection with this, a lecture was given by Dr. Clark H. Hayes of the United States Department of Agriculture.

"Mothers' milk for babies—cows' milk for calves" was the title of a poster that brought out the reason why so many children die in infancy. The fly also came in for an added indictment as the car emphasized the point that 90% carry with them the germs of typhoid, cholera infantum, tuberculosis or infantile paralysis so the slogan adopted reads "No filth, no flies—kill flies, save lives."

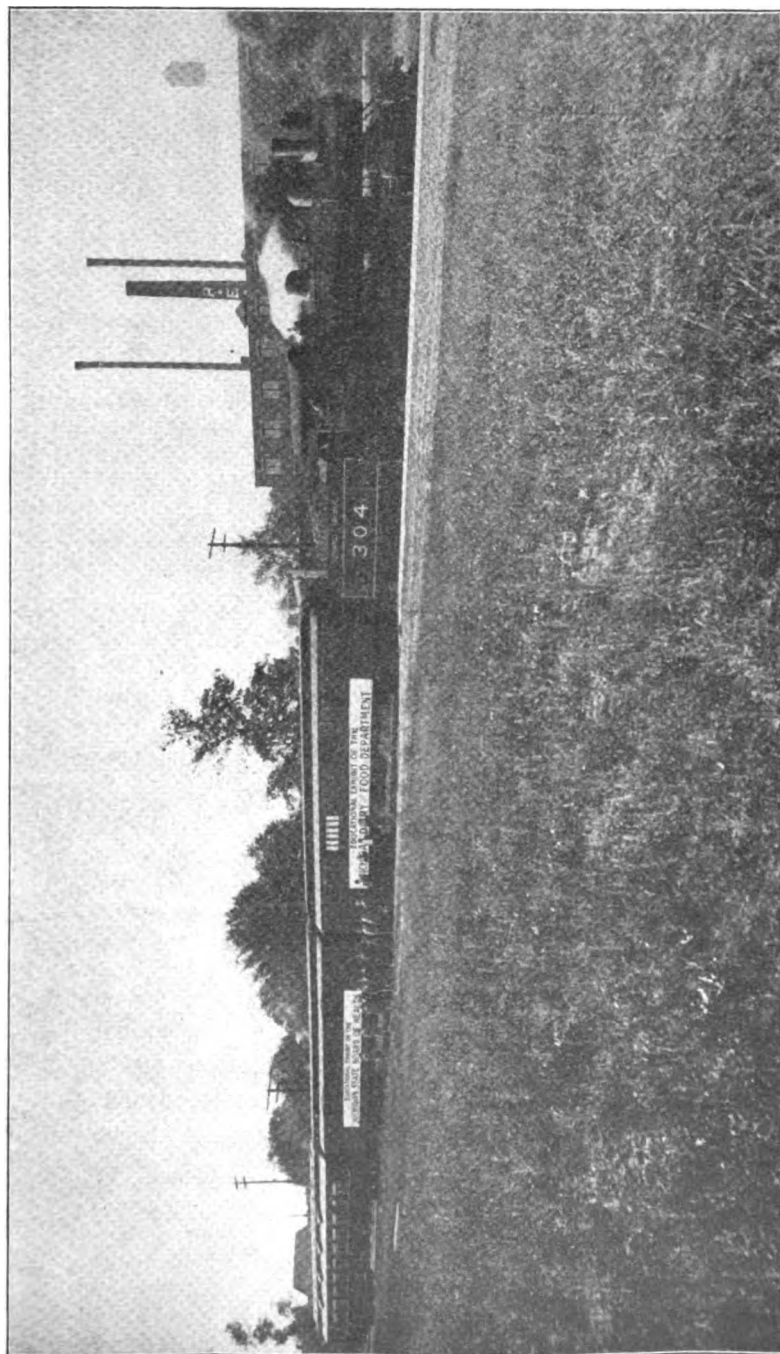
An exposure of dangerous drug "cures" was made and the abuse of testimonials shown. For instance, five testimonials told how the individuals were cured of consumption by taking "Natures Creation," a fake consumption cure, while the death records show that the "cured" were in their graves.

Many other fake drug preparations were exposed by means of placards which explained in detail the nature of the preparation, what was claimed for it and what it would do in actual practice.

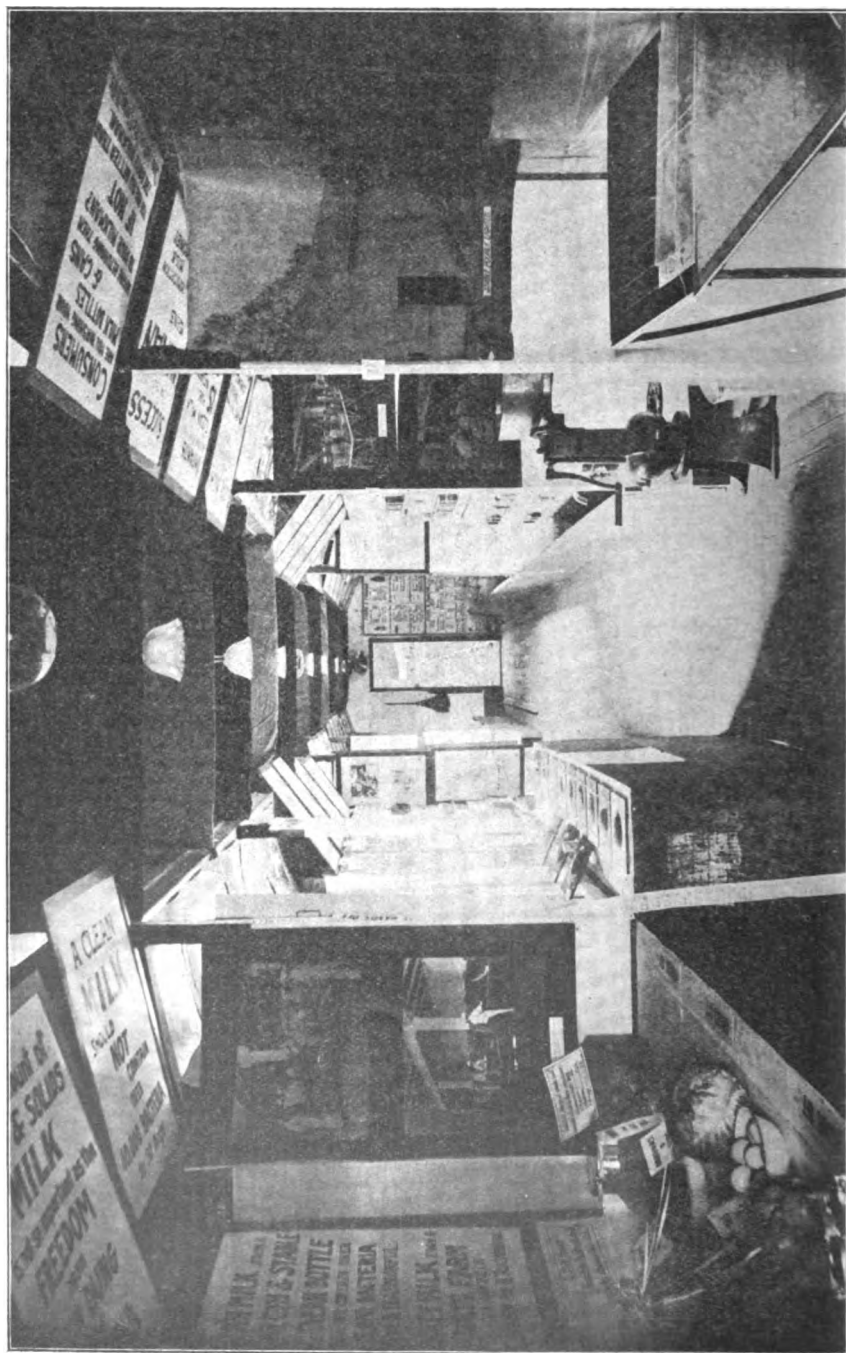
The car was accompanied by experienced demonstrators, who explained everything in detail and answered questions. James W. Helme, Dairy & Food Commissioner; F. L. Shannon, State Chemist; A. R. Todd, Drug Chemist; B. B. Lincoln, Inspector of Weights & Measures, represented the Dairy & Food Commission while Dr. C. H. Hayes represented the U. S. Dept. of Agriculture as an expert on tuberculosis in cattle.

It is estimated that over 60,000 people passed through the cars during the time the train was on the road, receiving the benefit of the talks in the various exhibits and carrying away thousands of pamphlets and bulletins which explained many things more fully than could possibly be done while in the cars. In this manner education in Food & Health topics reached many who did not have the opportunity of visiting the train.

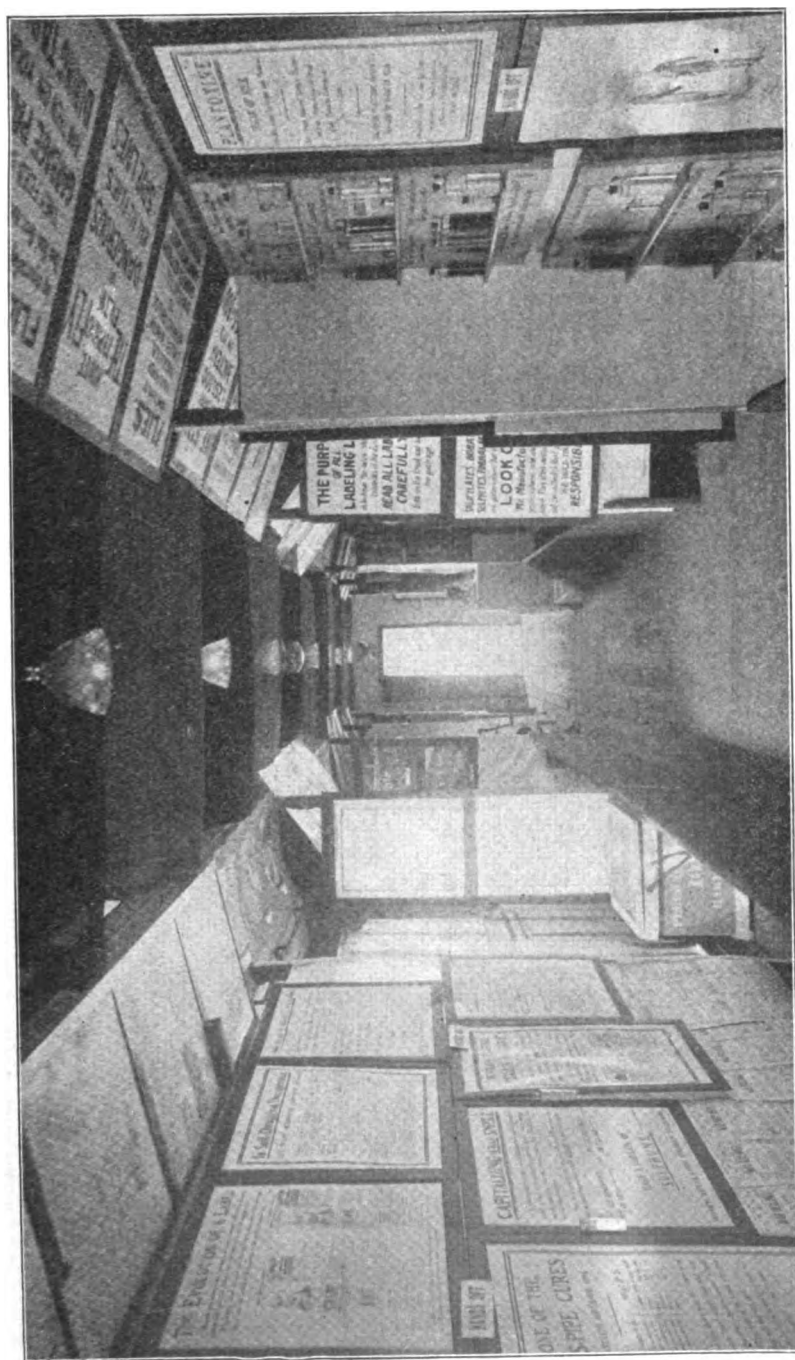
The entire equipment of the train was furnished gratis by the railroads, with the exception of the Pullman coach. The Lake Shore and Michigan Southern Railroads furnished this department with a sixty foot baggage car while the Michigan Central furnished the Board of Health with a similar car. The roads over which the train ran cheerfully furnished us with a crew and an engine and the train was handled during the entire trip in a most excellent manner. It was only due to this benevolent attitude on the part of the railroads that this educational propaganda was possible.



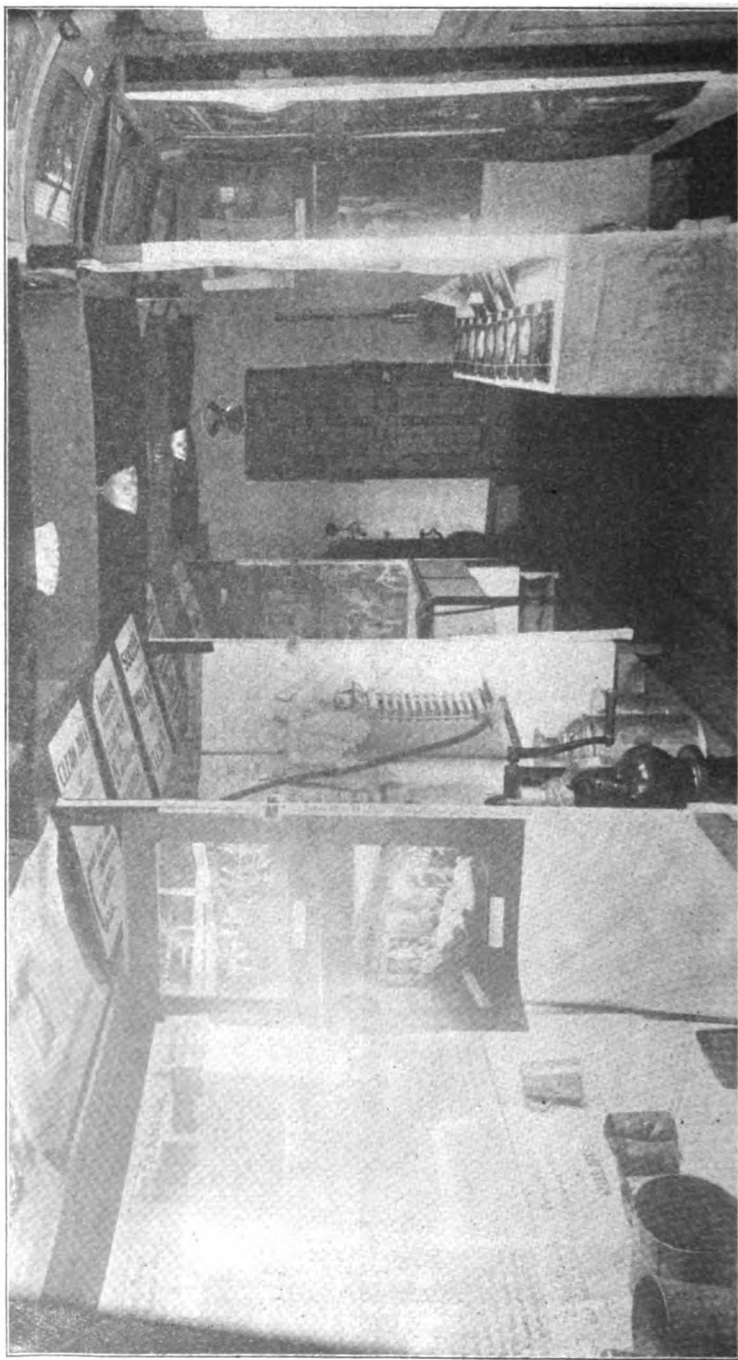
FOOD AND HEALTH SPECIAL WHICH TOURED THE STATE OF MICHIGAN DURING AUGUST AND SEPTEMBER, 1913.



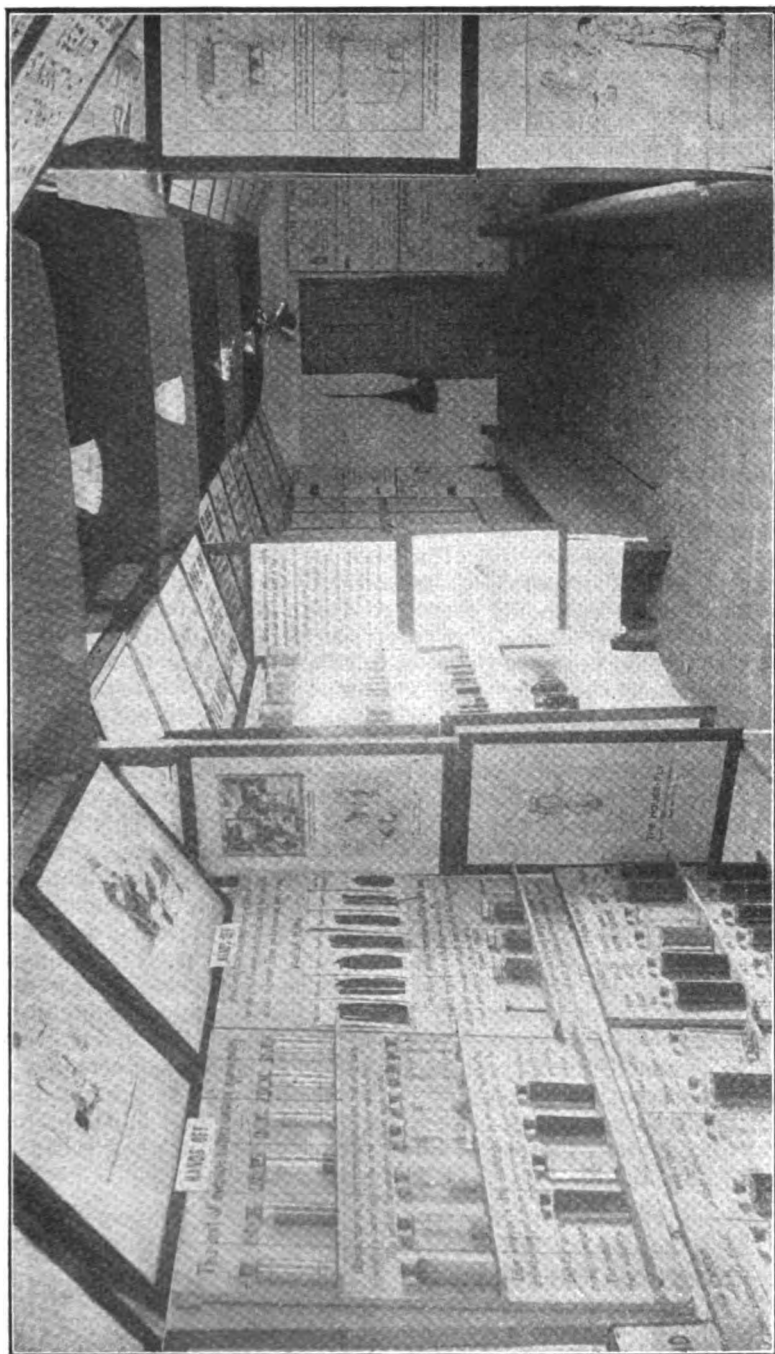
INTERIOR OF MICHIGAN DAIRY AND FOOD CAR FROM FRONT END OF CAR.



INTERIOR OF MICHIGAN DAIRY AND FOOD CAR FROM REAR OF CAR SHOWING A PART OF THE PATENT MEDICINE EXHIBIT.



INTERIOR OF MICHIGAN DAIRY AND FOOD CAR SHOWING EXHIBIT ON WEIGHTS AND MEASURES AND GENERAL ARRANGEMENT OF SMALL DAIRY HOUSE COMPLETELY EQUIPPED ON THE LEFT. SPECIMENS OF TUBERCULAR MEAT ON THE TABLE AT THE RIGHT.



A PART OF THE FOOD AND LINSEED OIL EXHIBIT ON LEFT. FAKES AND FRAUDS EXHIBIT IN BACKGROUND.

WEIGHTS AND MEASURES.

The last legislature passed a new Weights & Measures Law placing the operation of the same in charge of the State Dairy & Food Department. This law took effect on August 15th. Under the law the State Dairy & Food Commissioner became Superintendent of Weights & Measures for the State and his deputies became inspectors of weights and measures. He is also given authority by the law to prescribe rules and regulations for weights and measures in the state. One of the greatest abuses in the state is the so-called bottomless peck measure. This measure is about the size of a stove pipe in diameter and the ostensible object of this small diameter is so that it can be slipped into a paper bag and the commodities measured will be in the bag on the withdrawal of the measure. This measure contains the same number of cubic inches that the ordinary flat peck measure contains but owing to its peculiar shape, in the measuring of commodities like apples or potatoes, it is impossible to get a peck of those commodities in this measure. A bushel of potatoes under the Michigan law weighs 60 lbs. and a peck of potatoes should therefore weigh 15 lbs. but in the bottomless peck measure only 12 lbs. of average size potatoes can be placed therein. The use of this measure gives the dealer five pecks to every bushel. The use of this measure has been condemned by other states and on and after August 15th its use in Michigan became illegal under the regulations that were issued by the State Superintendent of Weights & Measures. Dealers and consumers will take notice accordingly.

It has been customary throughout the state for grocers to sell dry beans and like commodities in a tin quart measure. This tin quart measure holds a liquid quart which is about 10 cubic inches less than a dry quart measure holds. As a result a bushel of beans which contains 32 quarts when measured out to the consumer in a tin quart measure will measure 37 quarts and the consumer is therefore deprived of 5 quarts of beans on every bushel he buys. All commodities not liquid must be sold by dry measure a quart of which contains $67\frac{1}{2}$ Cu. In. Under regulations issued August 15th by the Superintendent of Weights & Measures, the use of liquid measures in selling dry commodities is prohibited and a failure to observe this law will invite prosecution. Inspectors of this department are notified to warn all dealers against the use of bottomless peck and half peck measures and also against the use of liquid quart measures when selling any commodity not liquid.

THE DEADLY PTOMAINES.

With the advent of hot weather comes an enormous increase in the consumption of ice cream and with this consumption comes the usual reported cases of ptomaine poisoning. Ice cream is a healthful product and one of our cheapest and most valuable foods and there is nothing dangerous in the consumption of ice cream provided proper conditions have been maintained in its manufacture. It must always be remembered that milk is an animal product and that in hot weather decomposition will set in in milk the same as in meat or any other animal product. In the decomposition of any animal product ptomaines are liable to be formed and if the product is then eaten, ptomaine poisoning results which often causes death and, in any event, very severe suffering.

There are two conditions under which ptomaine poisoning is liable to result in the manufacture of ice cream—one is caused by the refreezing of cream that has once been frozen and returned. It is quite a common thing in many rural districts for ice cream to be furnished church socials with the understanding that cream not used can be returned next day. If this cream is refrozen, ptomaines are very liable to develop. The practice should be strictly prohibited by law. Dirty milk cans and dirty ice cream cans likewise, may develop ptomaines from the decomposition of old cream left in the cans. At nearly every railroad station in Michigan can be seen ice cream cans that are being returned to the manufacturer after the cream has been used and, in nearly every case, the can is unwashed, and on opening the same the fearful stench of the decomposition of animal matter reaches the senses. A can in this condition when it reaches the factory is almost impossible to wash and sterilize and if any part of this old matter is left in the seams of the can, it is liable to inoculate new cream placed therein and ptomaines may generate and cause sickness and death. Every retail dealer of ice cream should thoroughly wash all empty cans before returning to the factory.

The last legislature passed a law providing for a penalty of \$100 for any person who reships ice cream or milk cans back to the factory without thoroughly cleansing them. The Dairy & Food Department proposes to vigorously enforce the same and wherever ice cream cans are found unwashed at any station, prosecutions for the violation of this law will be instituted.

PTOMAINES AND SULPHITES.

A few weeks ago at Ann Arbor a student ate a Hamburger Sandwich and died within twelve hours from Ptomaine poisoning. As we explained in a recent bulletin the Ptomaine poison is formed in decaying animal products. It is a chemical poison that no amount of heat will destroy. The reason it occurs more frequently in Hamburger and Sausage is because of the tendency of some butchers to retain the meat on the block until it is no longer saleable in its original form—then it goes to the grinder for Hamburger or Sausage.

Right here is where many butchers use a preservative known as "Sulphites." But for the addition of sulphites, this stale meat would not be saleable as Hamburger or Sausage. Sulphites preserves and embalms the meat from further decay by making it insoluble and imputrescible. The process of digestion is one of decomposition. Sulphites are not only injurious to health in themselves, but by preventing decomposition in the stomach injure the food product and make it indigestible. The great danger in the use of sulphites is that it may preserve Hamburger or Sausage in an apparently saleable condition after decomposition has set in and Ptomaine may have formed in the meat. It is a wise precaution for a consumer who likes Hamburger Steak to select the meat and have it ground in his presence. When you see Hamburger of a very bright, glairy and unnatural red, the probabilities are that it has been embalmed.

The use of preservatives containing Sulphites is forbidden by the laws of this state. This Department has in the past issued many warnings against the use of this preservative. In the future all cases of Sulphite preserved meat will be vigorously prosecuted.

FOOD INSPECTIONS.

The following places were visited by the Department's inspection force during the months of July and August, 1913:

Addison, Adrian, Alamo, Albion, Allegan, Alma, Ann Arbor, Alston, Augusta, Baltic, Bangor, Baraga, Bark River, Batavia, Battle Creek, Beacon Hill, Belding, Benton Harbor, Big Bay, Brady Center, Breckenridge, Brent Creek, Brice, Bridgeville, Brighton, Britton, Bronson, Caledonia, Cannonsburg, Calumet, Carleton, Carsonville, Cass Lake, Cassopolis, Cedar Springs, Centennial Heights, Chapin, Charlotte, Chas-sell, Chatham, Cheboygan, Chelsea, Clare, Chilson, Clio, Coleman, Coldwater, Conklin, Constantine, Cooks Corners, Delton, Detroit, Devil's Lake, Dexter, Diorite, Dollar Bay, Douglas, Dowagiac, Dundee, Durand, Ellwell, Elm Hall, Erie, Escanaba, Eugene, Eureka, Evans, Fenmore, Fenton, Flint, Flushing, Galesburg, Girard, Goodrich, Grand Haven, Grand Rapids, Grass Lake, Grattan, Gwinn, Hale, Hamburg, Hartford, Hillsdale, Hodunk, Holland, Houghton, Howard, Howell, Hudson, Hudsonville, Ida, Imlay City, Ingalls, Iron Mountain, Ishpeming, Ithaca, Jackson, Jennison Park, Kalamazoo, Kent City, Keweenaw Bay, Lake land, L'Anse, Lansing, Lapeer, Laurium, Little Lake, Limestone, Linden, Lipton, Lowell, Lulu, Mackinac Island, Macatawa, Macatawa Park, Manchester, Manitou Beach, Manton, Marquette, Marshall, Maybee, Middleton, Milan, Monroe, Montrose, Morenci, Morley, Mt. Morris, Mt. Pleasant, Munith, Munising, Muskegon, Negaunee, New Haven Center, Newport, Newark, Niles, Oakfield Center, Oak Grove, Oakley, Ola, Onsted, Otsego, Ottawa Beach, Owosso, Painesdale, Palestine, Palmer, Palmyra, Parma, Perrinton, Petersburg, Plainfield, Plainwell, Pompeii, Pontiac, Port Huron, Prattville, Quincy, Racy, Ravenna, Red Ridge, Reno, Republic, Riverdale, Rives Junction, Rockford, Saginaw, Sagola, Saline, Samaria, Saugatuck, Scofield, Shepherd, Skandia, Sparta, Springport, Standish, Stanton, South Haven, South Range, Stephenson, St. Johns,

St. Joseph, St. Louis, Sumner, Tecumseh, Temperance, Three Rivers, Trenary, Trimountain, Vernor, Waldron, Watervliet, West Branch, Wheeler, White Cloud, Whitmore Lake, Whittemore, Winters, Wolf Lake, Worth, Yorkville, Ypsilanti.

PROSECUTIONS.

Since beginning of fiscal year July 1, 1913.

Cases pending July 1, 1913.....	17
Cases commenced since said date	62

CASES DISPOSED OF.

Before examining magistrates:

Defendants bound over	24
Defendants discharged	3

In trial courts:

Defendants convicted	29
Defendants acquitted	1
Cases appealed	1
Cases pending September 1, 1913	47

In the case pending in police court, city of Detroit, against Miss Bessie Fitzsimmons, charged with selling colored oleomargarine, July 2nd defendant was bound over to recorder's court. July 10th defendant entered a plea of guilty. Fined \$50.

In the case pending in police court, city of Grand Rapids, against O. M. Falarski, charged with using sulphites in the manufacture of Hamburg Steak. Defendant bound over to Superior Court for trial. September 6th defendant convicted. Fined \$50 and costs.

In the case pending in recorder's court, city of Detroit, against Thos. M. Faust, charged with selling oleomargarine without displaying a sign in a conspicuous place, July 9th defendant was acquitted.

In the case pending in police court, city of Detroit, against Julius W. Goldman, charged with selling oleomargarine without displaying legal sign. July 2nd, defendant was bound over to recorder's court for trial. July 8th, defendant entered a plea of guilty. Fined \$50.

In the case pending in justice court, city of Holland, against Seigle Gunn, charged with selling colored oleomargarine. July 15, defendant bound over to circuit court for trial. August 27th defendant entered a plea of guilty. Fined \$50 and costs.

In the case pending in justice court, city of Holland, against Seigle Gunn, charged with selling oleomargarine without displaying legal sign, defendant bound over to circuit court for trial. August 27th defendant entered a plea of guilty. Sentence deferred.

Complaint was made June 9th in justice court, city of St. Johns, against Chas. Hankey, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$30 and costs.

Complaint was made June 23rd in police court, city of Jackson,

against the proprietor of the Jackson Cafe, charged with conducting an insanitary restaurant. Case pending.

Complaint was made June 13 in justice court, city of Grand Haven, against Wm. J. Baker of the People's Mercantile Company, charged with selling oleomargarine without displaying sign. June 20 defendant entered a plea of guilty and was fined \$50 and costs.

Complaint was made June 13 in justice court, city of Grand Haven, against John Hoffman charged with selling oleomargarine without displaying sign. June 20 defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made July 1 in police court, city of Detroit, against Bailey & Bottomlay charged with selling camphorated oil not in conformity with U. S. P. requirements. July 11 defendant bound over to recorder's court for the city of Detroit for trial. Case pending.

Complaint was made July 1 in police court, city of Detroit, against F. P. Toal charged with selling camphorated oil not in conformity with U. S. P. requirements. Case pending.

Complaint was made July 1 in police court, city of Detroit, against W. C. Marx charged with selling camphorated oil not in conformity with U. S. P. requirements. Case pending.

Complaint was made July 3 in police court, city of Jackson, against F. E. Russell, charged with selling oleomargarine without displaying a legal sign. Case pending.

Complaint was made July 7 in justice court, village of Lowell, against L. F. Chubb, charged with selling oleomargarine without displaying legal sign. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made July 7 in justice court, city of Hillsdale, against J. E. Johns of Ransom, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made July 7 in justice court, city of Hillsdale, against W. H. Stallhood, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made July 8 in justice court, city of Escanaba, against Olson and Anderson, charged with using sulphites in the manufacture of Hamburg Steak. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made July 9 in justice court, city of St. Joseph, against Maynard J. Teed, charged with using sulphites in the manufacture of Hamburg Steak. Defendant waived examination and was bound over to the circuit court for trial. Case pending.

Complaint was made July 9 in justice court, city of St. Joseph, against Peter H. Hirsch, charged with using sulphites in the manufacture of Hamburg Steak. Defendant waived examination and was bound over to the circuit court for trial. Case pending.

Complaint was made July 9 in justice court, City of St. Joseph, against Charles Cherry, charged with using sulphites in the manufacture of Hamburg Steak. Defendant waived examination and was bound over to the circuit court for trial. Defendant entered a plea of guilty and was fined \$25 and costs.

Complaint was made July 11 in justice court, city of Three Rivers, against Fred Wohlfeil, charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made July 11 in justice court, city of Three Rivers, against Geiger & Burns, charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made July 12 in justice court, village of Tecumseh, against P. R. Bowen, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made July 12 in justice court, village of Palmyra, against Daniel Rau, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made July 14 in justice court, city of Pontiac, against E. J. Blaksley, charged with selling adulterated milk. August 16 defendant convicted. Fined \$25 and costs.

Complaint was made July 15 in police court, city of Jackson, against L. Ambs charged with selling lard compound without stamping. September 8 defendant bound over to the circuit court for the county of Jackson for trial. Case pending.

Complaint was made July 15 in police court, city of Jackson, against C. R. Longstreet charged with selling lard compound without stamping. September 8, defendant bound over to the circuit court for the county of Jackson for trial. Case pending.

Complaint was made July 16 in justice court, city of Detroit, against Wm. Dittmar, charged with selling adulterated milk. Case dismissed.

Complaint was made July 16 in justice court, city of Detroit, against Adolph Moers, charged with selling adulterated milk. Case dismissed.

Complaint was made July 16 in justice court, city of Detroit, against Frank Tempel, charged with selling adulterated milk. Case dismissed.

Complaint was made July 19 in municipal court, city of Battle Creek, against John King charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made July 21 in justice court, city of Charlotte, against Bert Porter charged with selling adulterated lard. Case pending.

Complaint was made July 21 in justice court, city of Calumet, against F. H. Schumacher charged with using sulphites in the manufacture of Hamburg Steak. August 28 defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made July 21 in justice court, city of Calumet, against Mike Quello charged with using sulphites in the manufacture of Hamburg Steak. August 28 defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made July 21 in justice court, village of Laurium, against Gourd Bros. charged with using sulphites in the manufacture of Hamburg Steak. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made July 24 in police court, city of Detroit, against Michael Weise charged with using sulphites in the manufacture of Hamburg Steak. Defendant bound over to recorder's court for trial. Case pending.

Complaint was made July 26 in justice court, city of Stephenson, against Louis Hilgart charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made July 29 in justice court, city of Mt. Pleasant,

against Frank C. Berg charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 29 in justice court, city of Mt. Pleasant, against Robert Quakenbush charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 29 in justice court, city of Mt. Pleasant, against Art Warner charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$25.

Complaint was made July 29 in justice court, city of Mt. Pleasant, against Mat Wolschid charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 29 in justice court, city of Mt. Pleasant, against Tom Gallagher charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 31 in police court, city of Jackson, against Buehler Bros. charged with selling lard compound without stamping package. September 8 defendant bound over to circuit court for the county of Jackson for trial. Case pending.

Complaint was made August 1 in justice court, city of Ypsilanti, against G. B. Dunlap charged with selling lard compound without stamping same. Defendant bound over to circuit court for the county of Washtenaw for trial. Case pending.

Complaint was made August 4 in municipal court, city of Battle Creek, against Albert & Ida Russell, charged with selling milk from diseased cows. August 29, defendant convicted. Case appealed.

Complaint was made August 6 in justice court, city of St. Joseph, against Leo H. Reischke charged with using sulphites in the manufacture of Hamburg Steak. Defendant waived examination and was bound over to the circuit court for trial. Case pending.

Complaint was made August 8 in justice court, city of Coldwater, against Hall & Kennedy charged with selling oleomargarine without displaying legal sign. Defendant bound over to circuit court for the county of Branch for trial. Case pending.

Complaint was made August 8 in police court, city of Detroit, against Stanley Biernosciewicz charged with using sulphites in the manufacture of Hamburg Steak. September 9 defendant bound over to recorder's court for the city of Detroit for trial. Defendant entered a plea of guilty. Fined \$25.

Complaint was made August 8 in police court, city of Detroit, against Ben Marx charged with using sulphites in the manufacture of Hamburg Steak. August 21 defendant bound over to recorder's court for the city of Detroit for trial. Case pending.

Complaint was made August 8 in police court, city of Detroit, against F. X. Sarbinowski charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made August 8 in police court, city of Detroit, against Samuel Ratner charged with using sulphites in the manufacture of Hamburg Steak. Defendant bound over to recorder's court for the city of Detroit for trial. Case pending.

Complaint was made August 8 in police court, city of Detroit, against W. S. Kreger charged with using sulphites in the manufacture of Hamburg Steak. August 21 defendant bound over to recorder's court for

the city of Detroit for trial. Defendant entered a plea of guilty. Fined \$25.

Complaint was made August 12 in police court, city of Detroit, against Bert Hunt charged with selling lard compound without stamping. Case pending.

Complaint was made August 12 in police court, city of Detroit, against Adolph Bennert charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made August 12 in police court, city of Detroit, against Vincent Polmero charged with conducting an insanitary bakery. Bound over to recorder's court for the city of Detroit for trial. Case pending.

Complaint was made August 12 in police court, city of Detroit, against D. F. Christy charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made August 12 in police court, city of Detroit, against John Coates charged with using sulphites in the manufacture of Hamburg Steak. August 21 defendant bound over to the recorder's court for the city of Detroit for trial. Case pending.

Complaint was made August 12 in police court, city of Detroit, against D. M. Marx charged with using sulphites in the manufacture of Hamburg Steak. August 21 defendant bound over to the recorder's court for the city of Detroit for trial. Case pending.

Complaint was made August 12 in police court, city of Detroit, against A. Marx charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made August 13 in justice court, city of Three Rivers, against Adolphos L. Wilcox charged with selling adulterated milk. Case pending.

Complaint was made August 19 in police court, city of Detroit, against Robert Hirt, Jr., charged with selling oleomargarine without posting legal sign. Case pending.

Complaint was made August 20 in municipal court, city of Battle Creek, against George Williams charged with selling diseased meat. Case pending.

Complaint was made August 25 in police court, city of Grand Rapids, against John Leff charged with selling adulterated lard. August 26 defendant bound over to Superior court for the city of Grand Rapids for trial. Case pending.

Complaint was made August 25 in justice court, city of Charlotte, against Henry Heyman charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made August 26 in police court, city of Detroit, against Joseph Kukielka charged with conducting an insanitary meat market. Case pending.

Complaint was made August 28 in municipal court, city of Kalamazoo, against Leonard W. Reitkeark charged with selling adulterated milk. Case pending.

Complaint was made August 28 in municipal court, city of Kalamazoo, against Frank P. Gould charged with selling diseased meat. Case pending.

Lansing, Mich., Sept. 1, 1913.

Hon. James W. Helme,
State Dairy & Food Commissioner,
Lansing, Mich.

Dear Sir—I herewith hand you the report on the work done in the laboratory during the months of July and August. A total of 222 samples were examined, 104 of which were found to be in compliance with the Food Laws, while 118 were found to be adulterated or misbranded or that the sale in which the sample was a part, was not in conformity with the statute.

In the past the laboratory has classified samples as either adulterated or misbranded. Lately, however, we have found that this does not properly classify all samples. Therefore we have added a third classification under the caption "Illegal."

In order that it may be clearly understood what we mean by an illegal sample, an explanation may not be out of place. An inspector of the department buys a package of oleomargarine. He sends it to the laboratory as oleomargarine for the purpose of ascertaining whether the sample is what it is purported to be and whether it is adulterated within the meaning of the law. If we find it to be pure oleomargarine, uncolored and properly labeled, as far as the sample is concerned it could be passed. However, if the inspector has reported that no sign was displayed in compliance with the law in the place where this sample was obtained, we then classify this sample as illegal for the reason that it has entered into a part of the transaction when the law was violated for then the sample of oleomargarine was kept for sale, offered for sale and sold in violation of the law.

In the appended report you will find that we examined twelve samples of oleomargarine. Five of them were classified as illegal as they were sold in places where no sign was displayed as required by law.

You will note that 49 samples of milk were examined. Thirty-two of these were adulterated. Eleven of the adulterated samples were found to contain visible dirt in excessive amounts. As visible dirt unquestionably makes milk an insanitary product, it would seem advisable to bring some action under the new Insanitary Milk & Cream Law against dealers and producers who persistently have dirty milk.

Sixty-one samples of Hamburg Steak were examined. Thirty-six of them were found to contain added sulphurous acid or salts thereof, a preservative which causes old meat to take on a bright red color thereby making it appear better or of greater value than it really is and which is also injurious to health. Fifteen of these samples were found in the City of Detroit alone while the rest came from all sections of the state including many from the Upper Peninsula.

Twenty-five samples of soft drinks were submitted for analysis. Twenty-four of them were found to be unadulterated. These samples were picked up in various sections of the state and speak well for the campaign against soft drinks which was conducted during the months of November and December, 1911. It shows that

saccharine which at that time was used by nearly all bottlers as a sweetener in place of sugar, is being used in Michigan at the present very little if at all.

Very respectfully,
F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Butter.....	8	3	5
Canned fruits.....	2	0	2
Corn starch.....	1	1	0
Cream.....	1	1	0
Flavoring preparations.....	1	1	0
Ice cream.....	6	3	3
Hamburg steak.....	61	25	36
Lard and lard compound.....	13	1	12
Linseed oil.....	4	1	3
Meat.....	8	5	3
Milk.....	49	17	32
Oleomargarine.....	12	6	6
Olive oil.....	1	1	0
Preservatives.....	9	6	3
Raisins (seeded).....	3	0	3
Sardines.....	2	0	2
Sausage.....	9	6	3
Soft drinks.....	25	24	1
Syrups.....	2	0	2
Turpentine.....	4	2	2
Vinegar.....	1	1	0
Totals.....	222	104	118

ANALYSES OF SAMPLES.

BUTTER.

No. 27684, Y-129. Sample of "butter" procured from Childs Restaurant, 319 Woodward Ave., Detroit. Sample is oleomargarine. Proper sign not displayed.

No. 27726, A-2. Sample of "butter" procured from the White Front Butter & Egg Co., 168 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27727, A-3. Sample of "butter" procured from the Western Market Butter and Egg Co., 819 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27741, F-84. Sample butter procured from J. Davey, Jr., 363 Grand River Ave., Detroit. Product is renovated butter. Package not stamped.

No. 27810. Unofficial sample of butter. Sample is renovated butter. Package not stamped.

CANNED FRUITS.

No. 27635, I-85. Sample of California White Cherries manufactured by the California Fruit Cannery Association and procured from Hendershot & Allen, Adrian. Misbranded in that the manufacturer's address does not appear on the label.

No. 27781, I-104. Sample of Sun Kist Bartlett Pears manufactured by J. H. Armsby Co., California, and handled by the Jackson Grocery Co., Jackson. Misbranded in that the manufacturer's address does not appear on the label.

ICE CREAM.

No. 27652, Y-127. Sample of ice cream manufactured by the LaBelle Ice Cream Company, Saugatuck. Butter fat 6.8%. Below standard.

No. 27653, Y-128. Sample of ice cream manufactured by A. B. Taylor, Saugatuck. Butter fat 6.0%. Below standard.

No. 27802, Y-135. Sample of ice cream manufactured by the Piper Ice Cream Company, Kalamazoo, and procured from Van Ostrand-Mattison Drug Co., Kalamazoo. Butter fat 8.0%. Below standard.

HAMBURG STEAK.

No. 27474, G-902. Sample of Hamburg Steak manufactured and sold by J. P. Peterman, Kearsarge, Houghton county. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27476, G-904. Sample of Hamburg Steak manufactured and sold by Morgan & Grierson, Centennial. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27499, G-906. Sample of Hamburg Steak manufactured and sold by F. H. Schumacher, Calumet. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27500, G-907. Sample of Hamburg Steak manufactured and sold by Mike Quello, Calumet. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27501, G-908. Sample of Hamburg Steak manufactured and sold by Tamarack Co-operative Store, Calumet. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27503, G-910. Sample of Hamburg Steak manufactured and sold by Gourd Bros., Laurium. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27519, F-770. Sample of Hamburg Steak manufactured and sold by Leo. H. Reischke, Benton Harbor. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27602, F-65. Sample of Hamburg Steak procured from Adolph Bennert, 1889 Michigan Ave., Detroit. Added sulphites present. Not permissible in food products.

No. 27603, F-66. Sample of Hamburg Steak procured from F. X. Sarbinowski, 1774 Michigan Ave., Detroit. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27605, F-68. Sample of Hamburg Steak procured from Stanley Bernosiewicz, 1389 Michigan Ave., Detroit. Product contains added

sulphurous acid or salts thereof, not permissible in food products.

No. 27606, F-69. Sample of Hamburg Steak procured from S. Ratner, 258 Hastings St., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27610, V-19. Sample of Hamburg Steak manufactured and sold by M. Weise, Mt. Elliott Ave., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27611, Y-123. Sample of Hamburg Steak procured from G. Auberlin, 1072 Forest Ave., East, Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27613, F-70. Sample of Hamburg Steak procured from D. F. Christie, 3027 Woodward Ave., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27614, F-71. Sample of Hamburg Steak procured from Max Kohn, 2952 Woodward Ave., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27615, F-72. Sample of Hamburg Steak procured from B. Marx, Broadway Market, Detroit. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27617, F-74. Sample of Hamburg Steak procured from D. M. Marx, Broadway Market, Detroit. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27618, F-75. Sample of Hamburg Steak procured from W. S. Kreger, Broadway Market, Detroit. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27629, U-12. Sample of Hamburg Steak procured from John Coates, 243 Grand River Ave., Detroit. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27641, V-20. Sample of Hamburg Steak procured from A. Marx, 25 Cadillac Square, Detroit. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27678, X-373. Sample of Hamburg Steak procured from Geo. H. Tooley, Owosso. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27681, I-90. Sample of Hamburg Steak manufactured and sold by Woodward & Company, Milan. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27718, I-92. Sample of Hamburg Steak manufactured and sold by H. A. Straw, Bronson. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27719, I-93. Sample of Hamburg Steak manufactured and sold by H. A. Straw, Bronson. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27720, E-49. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing and procured from Chas. Hensey, Lansing. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27721, E-50. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27730, E-51. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27761, N-27. Sample of Hamburg Steak manufactured and sold by Perry T. Banghart, Alma. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27765, P-790. Sample of Hamburg Steak procured from George Williams, Battle Creek. Sample was in an advanced stage of decomposition, tainted and absolutely unfit for use.

No. 27769, E-53. Sample of Hamburg Steak procured from Geo. E. Decke, Lansing. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27776, I-105. Sample of Hamburg Steak manufactured and sold by Weber & Bossong, Jackson. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27777, I-106. Sample of Hamburg Steak manufactured by Weber & Bossong and procured from A. Savoy, 232 E. Main St., Jackson. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27779, I-108. Sample of Hamburg Steak manufactured and sold by G. O. Mollenkopf, 513 E. Main St., Jackson. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27795, U-25. Sample of Hamburg Steak manufactured by Joseph Tansky, 388 Hastings St., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27798, V-27. Sample of Hamburg Steak manufactured and sold by A. Schmidt, 939 Mack Ave., Detroit. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27800, Y-133. Sample of Hamburg Steak manufactured and sold by P. Sliter, 208 E. Main St., Kalamazoo. Contains added sulphurous acid or salts thereof, not permissible in food products.

LARD.

No. 27480, P-763. Sample of "lard" manufactured and sold by Bert Porter, Charlotte. Sample is lard compound.

No. 27481, P-764. Sample of "lard" manufactured and sold by Bert Porter, Charlotte. Sample is lard compound.

No. 27536, E-46. Sample of "lard" procured from W. J. Becker, Flint. Not a pure lard.

No. 27553, I-73. Sample of lard compound procured from Buehler Bros., Jackson. Sample is lard compound not properly stamped.

No. 27556, I-71. Sample of lard compound procured from Aldrich & Son, Tecumseh. Sample is lard compound not stamped.

No. 27593, I-76. Sample of lard compound procured from Charles King & Co., Ypsilanti. Sample is lard compound, not stamped.

No. 27604, F-67. Sample of lard compound procured from Bert Hunt, 1677 Michigan Ave., Detroit. Sample is lard compound not stamped.

No. 27620, E-47. Sample of lard compound procured from W. H. McRae, Perrinton. Sample is lard compound, not stamped.

No. 27621, E-48. Sample of lard compound procured from William Horton, Riverdale. Sample is lard compound not stamped.

No. 27628, I-82. Sample of lard compound procured from Ben T. Peavy & Co., Adrian. Sample is lard compound, not stamped.

No. 27665, F-77. Sample of "lard" procured from J. Leff, Grand Rapids. Sample is lard compound, not stamped.

No. 27736, F-83. Sample of "lard" procured from Lamkin Bros., 125 Michigan Ave., Detroit. Sample is lard compound, package not stamped.

LINSEED OIL.

No. 27454, G-898. Sample of raw linseed oil manufactured by the Southern States Turpentine Co., Cleveland, Ohio, and procured from J. P. & G. H. Peterman, Mohawk. Sample contains about 22% of a petroleum product.

No. 27456, G-900. Sample of boiled linseed oil manufactured by the National Linseed Co., Cleveland, Ohio, and procured from Morgan & Grierson, Ahmeek. Sample contains about 30% of a petroleum product.

No. 27671, I-87. Sample of raw linseed oil manufactured by the Eastland Linseed Company, Cleveland, Ohio, and procured from E. J. Harwick, Samaria. Adulterated with 20% foreign product.

MEATS.

No. 27732, I-94. Sample of Cherokee Brand Roast Beef manufactured by the Sulzberger & Sons Co., Chicago, Ill., and procured from Amsden Grocery Co., Quincy. Misbranded in that the manufacturer's name was not stated on the label.

No. 27742, P-788. Sample of meat procured from Frank P. Gould, Augusta. Sample consisted wholly or in part of putrid, decomposed and tainted animal substance. Unfit for food.

No. 27752, P-789. Sample of meat procured from Bazley Market, Battle Creek. Consisted wholly or in part of putrid, decomposed and tainted animal substance. Unfit for food.

MILK.

No. 27497, S-18. Sample of milk procured from P. R. Bowen, Tecumseh. Below standard in specific gravity and total solids. Contains about 15% added water.

No. 27509, P-769. Sample of milk procured from Wm. Gillespie, Delton. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 27524, N-11. Sample of milk sold by Patrick Greer, Mt. Pleasant, R.F.D. Below standard in butter fat and total solids.

No. 27525, N-12. Sample of milk sold by Frank McCann, Mt. Pleasant, R.F.D. Below standard in total solids and butter fat. Contains an excessive amount of visible dirt.

No. 27526, N-13. Sample of milk sold by F. C. Berg, Rosebush. Below standard in butter fat. Contains an excessive amount of visible dirt. A part of the cream has been removed.

No. 27527, N-14. Sample of milk sold by R. Quackenbush, Mt. Pleasant, R.F.D. Below standard in butter fat and total solids. Contains an excessive amount of visible dirt. A part of the cream has been removed.

No. 27528, N-15. Sample of milk sold by Art Warner, Mt. Pleasant, R.F.D. Below standard in butter fat and total solids. Contains an excessive amount of visible dirt. A part of the cream has been removed.

No. 27530, N-17. Sample of milk sold by Mat Scully, Mt. Pleasant, R.F.D. Below standard in total solids.

No. 27531, N-18. Sample of milk sold by Mat Wolscheid, Rosebush. Below standard in butter fat and total solids. A part of the cream had been removed.

No. 27532, N-19. Sample of milk sold by F. Fox, Rosebush. Below standard in specific gravity, butter fat and total solids. Contains an excessive amount of dirt.

No. 27533, N-20. Sample of milk sold by P. A. Powell, Mt. Pleasant, R.F.D. Below standard in butter fat and total solids.

No. 27534, N-21. Sample of milk sold by Tom. Gallagher, Mt. Pleasant, R.F.D. Below standard in butter fat and total solids. A part of the cream had been removed.

No. 27535, N-22. Sample of milk sold by Frank Coughlin, Mt. Pleasant, R.F.D. Below standard in butter fat and total solids.

No. 27550, P-772. Sample of milk produced and sold by John King, Battle Creek, R.F.D. Below standard in specific gravity, total solids and butter fat. Contains about 36% added water.

No. 27574, J-30. Sample of milk produced and sold by W. A. McDonald, Pt. Huron. Contains an excessive amount of visible dirt.

No. 27577, J-33. Sample of milk produced and sold by Herbert Jones, Atkins. Contains an excessive amount of visible dirt.

No. 27578, J-34. Sample of milk produced and sold by Frank Werkmeister, Atkins. Contains an excessive amount of visible dirt.

No. 27579, J-35. Sample of milk produced and sold by H. W. Burch, Atkins. Contains an excessive amount of visible dirt.

No. 27580, J-36. Sample of milk produced and sold by A. Myron, Atkins. Contains an excessive amount of visible dirt.

No. 27582, Y-122. Sample of milk procured from W. J. Mickle, South Haven. Below standard in specific gravity, butter fat and total solids. Contains about 38% added water and an excessive amount of visible dirt.

No. 27598, P-777. Sample of milk procured from A. L. Wilcox, Three Rivers. Below standard in butter fat and total solids. A part of the cream had been removed.

No. 27658, W-24. Sample of milk procured from Ali Chatelain, Kalamazoo. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 27659, W-25. Sample of milk procured from Ali Chatelain, Kalamazoo. Below standard in specific gravity and total solids. Contains about 19% added water.

No. 27683, P-779. Sample of milk procured from the Whitcomb Hotel, St. Joseph. Below standard in butter fat and total solids. A small amount of cream had been removed.

No. 27715, P-786. Sample of milk produced and sold by Leonard W. Reitkeark, Alamo, R.F.D. No. 13. Below standard in specific gravity, butter fat and total solids. Contains about 30% added water.

No. 27764, S-20. Sample of milk procured from Alfred Godfrey, Jonesville. Below standard in specific gravity, total solids and butter fat. Contains about 20% added water.

OLEOMARGARINE.

No. 27354, U-9. Sample of oleomargarine procured from J. W. Goldman, 1413 Michigan Ave., Detroit. Sample is oleomargarine, no sign displayed.

No. 27395, S-16. Sample of oleomargarine procured from L. O. Folson, Pontiac. Sample is oleomargarine, no sign posted.

No. 27467, I-68. Sample of oleomargarine procured from Hall & Kennedy, Coldwater. Sample is oleomargarine, no sign posted.

No. 27692, G-921. Sample of oleomargarine procured from John Seigel, Marquette. Sample is oleomargarine, no sign displayed.

No. 27716, F-81. Sample of oleomargarine procured from Chas. Moral, 916 Grand River Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27728, U-14. Sample of oleomargarine procured from Robert Hirt, Jr., 32 Market St., Detroit. Sample is oleomargarine, no sign posted.

PRESERVATIVES.

No. 27276, G-892. Sample of Enterprise Preservative manufactured by the Heller Chemical Co., Chicago, and procured from the Houghton Pure Food Co., Houghton. Sample consists chiefly of sodium bi-sulphite. Not permissible in food products.

No. 27475, G-903. Sample of Freeze em manufactured by B. Heller & Co., Chicago, Ill., and procured from J. P. Peterman, Kearsarge. Sample contains sulphites, not permissible in food products.

No. 27612, Y-124. Sample of German Conserveur Salts procured from M. Weise, 1749 Mt. Elliot Ave., Detroit. Contains boric acid or salts thereof, not permissible in food products.

RAISINS.

No. 27634, I-84. Sample of Seedless Raisins packed by Castle Bros., California, handled by the Feilbach Co., Toledo, Ohio, and procured from J. Fred Betz, Adrian. Misbranded in that the manufacturer's address is not complete.

No. 27755, I-99. Sample of Sun Kist Seeded Raisins packed by J. K. Armsby Co., California and procured from L. A. Leinbach, Jackson. Misbranded in that the address of the manufacturer is not stated on the label.

No. 27756, I-100. Sample of Pansy Seedless Raisins packed by Guggenlime & Co., California, handled by Lee & Cady, Detroit, and procured from L. Farrell & Son, Jackson. Misbranded in that the manufacturer's full address is not stated on the label.

SARDINES.

No. 27771, I-102. Sample of "Une Saveur" American Sardines put up by Holmes Co., and procured from C. E. Howell, Rives Junction. Misbranded in that the address of the manufacturer is not stated on the label.

No. 27772, I-103. Sample of "Victoria Navy Smoked Sardines" sold by the Jackson Grocery Co., Jackson, and procured from B. G. Champ-lin & Son, Jackson. Misbranded in that label does not give name or address of Manufacturer.

SAUSAGE.

No. 27590, I-72. Sample of bologna sausage manufactured and sold by Schmid & Schleh, Saline. Cereal present. No statement on the package to indicate same.

No. 27607, I-81. Sample of bologna sausage manufactured and sold by C. A. Chamberlain, Springport. Sample contains cereal, package not stamped. Casing artificially colored.

No. 27676, X-371. Sample of pork sausage procured from E. R. Wilber & Son, Owosso. Cereal present, package not stamped.

SOFT DRINKS.

No. 27592, I-75. Sample of ginger ale manufactured by James Vernor, Detroit, and procured from Walter Nissly, Saline. Burnt match, pieces of paper and other sediment in bottom of bottle.

SYRUPS.

No. 27654, D-189. Sample of syrup sold by Hout & Rittenhouse, Cheboygan, and procured from Harry Graham, Cheboygan. No label on bottle.

No. 27691, G-922. Sample of Belmont Brand Syrup manufactured by the Chicago Concentrating Co., Chicago, and procured from A. Brush, Marquette. Misbranded in that label does not give percentage of ingredients other than maple.

TURPENTINE.

No. 27473, G-901. Sample of turpentine manufactured by the Southern States Turpentine Co., Cleveland, Ohio, and procured from J. P. Peterman, Kearsarge. Not a pure turpentine, contains 19.8% mineral oil.

No. 27594, G-919. Sample of turpentine manufactured by the Southern States Turpentine Co., Cleveland, Ohio, and procured from J. Vivian, Jr. & Company, Laurium. Sample contains 12.8% mineral oil.

DRUG INSPECTIONS.

The following places were visited by the drug inspectors of the Department during the months of July and August, 1913.

Alpena, Alto, Ann Arbor, Applegate, Auburn, Battle Creek, Bay City, Berlin, Berrien Springs, Bessemer, Bloomingdale, Brooklyn, Buchanan, Calumet, Carson City, Carsonville, Cedar Springs, Cement City, Chesaning, Coopersville, Crosswell, Crystal Falls, Decatur, Deckerville, Delray, Detroit, Elberta, Escanaba, Fennville, Fowler, Gladstone, Grand Haven, Grand Rapids, Gobles, Hancock, Harbor Beach, Houghton, Hubbardston, Hubbell, Ionia, Iron Mountain, Iron River, Ishpeming, Kalamazoo, Lake Linden, Laurium, Lawton, Levering, Lexington, Lowell, Lyons, Mackinaw City, Manistique, Maple Rapids, Marquette, Menominee, Middleton, Midland, Minden City, Muir, Munising, Negaunee, Newberry, North Escanaba, Norway, Ontonagon, Paw Paw, Pellston, Pinconning, Powers, River Rouge, Rockford, Saginaw, Sandusky, Saranac, Sault Ste. Marie, South Haven, Sparta, Spring Lake, Standish, St. Charles, St. Ignace, St. Johns, Wells, Westphalia, Zeeland.

Sept. 1st, 1913.

Hon. James W. Helme,
State Dairy & Food Commissioner,
Lansing, Mich.

Dear Sir—I herewith hand you the report of the 40 Samples of Drug Products examined in the Drug Laboratory during the two months of July and August.

10 of the 40 samples were found to be adulterated or misbranded, within the meaning of the Drug Act.

9 of the 10 condemned samples were Camphorated Oil. The Drug Inspectors are now advocating that the druggists use the Percolation Method in the manufacture of this Product. Already improvements as to the quality are noted, and it is only a matter of time, until this preparation will be up to the U. S. P. standard.

Inasmuch as it was necessary for a part of the Laboratory Force to be with the Demonstration Train, during these two months, the Drug Inspectors were asked not to send in samples, except in cases where it was absolutely necessary, which explains why there were only one-third as many samples examined as were during the previous two months.

Yours truly,
A. R. TODD,
Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated, misbranded or illegally sold.	Found adulterated, misbranded or illegally sold.
Camphorated oil.....	23	14	9
Essence pepsin.....	1	1	0
Formin tablets.....	1	1	0
Fowlers solution.....	2	2	0
Hydrogen peroxide.....	2	2	0
Lime water.....	1	1	0
Proprietary preparations.....	1	1	0
Phenacetine and salol.....	1	1	0
Spirits camphor.....	2	2	0
Tincture iodine.....	2	1	1
Tincture opium.....	2	2	0
T. T. Codeine.....	1	1	0
T. T. Nitroglycerine.....	1	1	0
Totals.....	40	30	10

ANALYSES OF DRUG SAMPLES.

No. 27490, Z-80. Sample of camphorated oil manufactured and sold by White and White, Grand Rapids. Does not conform to U. S. P. requirements. Low in camphor.

No. 27491, Z-81. Sample of camphorated oil manufactured and sold by F. W. Smelker, Lake Odessa. Does not conform to U. S. P. requirements. Low in camphor.

No. 27510, Q-136. Sample of camphorated oil manufactured and sold by F. J. Erwin, Marlette. Does not conform to U. S. P. requirements. A mixture of camphor and linseed oil.

No. 27540, Z-84. Sample of camphorated oil manufactured and sold by Geo. S. Layerer, Bay City. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27541, Z-85. Sample of camphorated oil manufactured and sold by W. E. Stevenson, Bay City. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27543, Z-87. Sample of camphorated oil manufactured and sold by F. C. Warner, Bay City. Does not conform to U. S. P. requirements. Low in camphor.

No. 27565, Z-98. Sample of camphorated oil manufactured and sold by Aug. Bauer, Chesaning. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27661, Q-145. Sample of camphorated oil manufactured and sold by L. F. Barlow, Delray. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27703, Q-149. Sample of camphorated oil manufactured and sold by R. W. Rennie, 771 3rd Ave., Detroit. Does not conform to U. S. P. requirements in that it is low in camphor.

TINCTURE IODINE.

No. 27636, Q-140. Sample of tincture iodine manufactured and sold by M. W. Moore, Sandusky. Does not conform to U. S. P. requirements in that it is low in potassium iodide.

SUGGESTIONS FOR A BETTER U. S. P. AND N. F. AND DIFFICULTIES ENCOUNTERED IN THE ENFORCEMENT OF THE DRUG LAW IN REGARD THERETO.

BY A. R. TODD, DRUG ANALYST.

The discrepancies in the standards of the U. S. P. and N. F. soon become apparent when an attempt is made to enforce drug laws in which these works are named as standards. It is of course a well known fact that these two books were not originally intended to be standards in the sense that they are now used, but since Congress and many State Legislatures in all their wisdom have seen fit to incorporate the standards laid down by the U. S. P. and N. F. into the law, it becomes necessary for officials charged with the enforcement of the law to use them.

It is the purpose of this paper, therefore, to offer some suggestions based on practical experience as a drug official, which would, in my opinion, vastly increase the worth of the U. S. P. and N. F.

In the first place we need a U. S. P. and N. F. that will be standards in every sense of the word. In order to accomplish this we must have a definite standard for every preparation possible in these two books, as well as accurate methods for assays. In the present U. S. P. there are 961 articles which may be divided into two classes, those that have an assay and those that have not. The class that has an assay may be sub-divided into two parts. Those that have an assay for each ingredient and those that have an assay for the principal ingredient.

A resume* of the U. S. P. shows that 29% of the preparations fall in the first class and have an official definition as well as a reliable assay. The other 71% have neither. Of the first class about 1% have an assay for each ingredient and 28% have an assay for the principal ingredient only. Of the latter, viz: those that have an assay for the principal ingredient only Tincture of Iodine is a good example. Potassium Iodide is used in this preparation for two reasons. First, to aid in the solution of the Iodine and second to keep Iodic Acid from forming. Therefore, if Potassium Iodide is such an important ingredient, it would seem that a method for its assay should be incorporated and furthermore the official definition should state the amount of Iodide the finished preparation should contain. Another good example of this same class is Elixir of Iron, Quinine and Strychnine. It is my opinion that this all important preparation needs revising if any does.

Have you ever attempted to calculate the Iron content? The Elixir is made from the Tincture of Citro Chloride of Iron N. F., which is made from the solution of Ferric Chloride U. S. P., which in turn is made from Metallic Iron. Attempt to calculate the Iron content before an average Jury and see where you land. Before you get through the Judge, Jury and even yourself will be disgusted. Then in all probability the Lawyer for the defense will arise and move that the case be

* Read at the Meeting of the American Pharmaceutical Association at Nashville, Tenn., Aug. 15, 1913.

dismissed as there is no official standard or official method of assay. It would seem, therefore, that this preparation should at least have an official definition stating the percentage of the principal ingredients that it should contain.

Seidlitz Powders is another important preparation. The U. S. P. says that the blue papers shall contain 10.33 grams and the white 2.25 grams. Now what if the blue papers contain only 9.5 grams and the white 1.9 grams. Shall we condemn the sample or pass it. Here again shows the need of a minimum and maximum standard for the principal ingredients of each and every preparation.

We need more methods of assay and more definitions and if the degree of experimental error or tolerance limit to be expected be given with each method it will save much time and work on the part of the drug officials and be another step towards uniformity. As it is if a U. S. P. or N. F. product is sent in by one of our drug inspectors which the Chemist has not analyzed before, he must first try out the method on a number of known samples to see just how much variation he can allow.

Tablets Triturates it seems present an obstacle. Since it is impossible to place every triturate in the U. S. P. or N. F. therefore why not have a general provision reading somewhat like the following: "All tablet triturates shall contain that quantity of medicinal substance which is represented on the container thereof."

It is my understanding that the use of the word "About" will be eliminated in the next edition. This I heartily approve of as there has always been and still is a question of just how much variation we must allow on account of this word. In this connection it seems that there are a number of other words or phrases that could very well be eliminated.

In regard to Spirits of Nitre, there seems to be a difference of opinion on the keeping qualities of this product. By experimentation it has been shown many times that this product may be kept in perfect condition for a number of months if kept in accordance with the U. S. P. Therefore, it would seem that the Phrase "When freshly prepared" could very well be eliminated from the definition.

In conclusion it seems that the crying need of the U. S. P. is a clear, concise definition for each preparation, giving a minimum and maximum standard for the principal ingredients and a method for their determination. I am heartily in favor of converting the U. S. P. into a book of simples and the N. F. into a book of formulas, with provisions for a yearly supplement to each. Further, I believe it might be well to have all methods worked out and adopted by the A. O. A. C. take precedence over the methods of the U. S. P. and after approval by some official body representing the revision committee of the U. S. P. these methods be printed as a supplement to the U. S. P. This would give us an opportunity to use new methods and at the same time feel that they were official, without waiting for the ten year meeting of the revision committee.

Michigan Dairy and Food Department Laboratories,
1913.

A FEW OBSERVATIONS.

From calling on some one thousand druggists of the state, located from the Iron Range in the north to our Metropolis in the south, and from conditions varying from a poor old shack in a poor neighborhood, poorly supported, where \$50.00 would be an extravagant figure to place on the entire outfit, to the up-to-date finely equipped palace of Pharmacy in one of our largest cities; I have gleaned the following observations.

It seems to me that in a general sense conditions are improving. To be sure merchandising is on the increase and the once exclusive Pharmacy becoming less evident. However where Pharmacy is practiced, it is of a higher grade, more care being exercised in the preparation of standard official remedies and under more sanitary conditions.

In the place of carelessly prepared "Lime Water," "Sweet Spts. of Niter," "Camphor Liniment," "Tincture of Iodine," and the Potent Tinctures that were common at the beginning of Drug Inspection, we now have (except in very rare instances, where laziness and ignorance still block progress) strictly U. S. P. articles which are a delight to the eye as well as the smeller of the Inspector.

Besides improving the QUALITY of preparations (the object sought in PURE DRUG legislation) Drug Inspection has done more.

It has awakened in the minds of Druggists the necessity of keeping posted on new preparations and changes that take place from time to time in new editions of the U. S. P. and N. F. and never before have we had such a seeking after Pharmaceutical knowledge as at the present time. I find almost without exception N. A. R. D. Notes, The Bulletin of Pharmacy, The Pharmaceutical Era, The Druggist's Circular or some one of the good disseminators of Pharmaceutical lore on the desks where I call. If further evidence is needed you have only to ask the dean of the Pharmacy dep't. of the U. of M., the Sec'y of Ferris' Institute or other similar institution regarding inquiries at those places.

Do not think that because the general trend of things is optimistic that we have reached perfection. There are many changes that might be suggested for improving conditions as we find them in many stores.

An important one is sanitation or just common every day cleanliness. I used to tell my "boys" that when they had a graduate or mortar or other utensil sufficiently cleaned that they would be willing to eat their bread and milk from it, it was perhaps clean enough in which to prepare medicines for the sick.

Another place where cleanliness is sometimes wanting is in containers. For example, shelf-bottles for Essential Oils, Syrups, Elixirs, etc. How often the lips of such bottles are dirty and bedaubed to such an extent that it is impossible to tell whether the contents are sour and rancid and unfit for use or that it is simply the deposit that could be easily removed by the use of a little alcohol and elbow grease. A store may look bright, well arranged and attractive from the front, but unless the prescription room is tidy and clean, I shall continue to report "condition of store" BAD.

The keeping of Crude Drugs is often sadly neglected. Reference to roots, herbs, leaves and pressed packages is intended. These are often crowded away into some out-of-way, dirty place in cigar boxes or equally poor containers, poorly labeled, allowed to get wormy and entirely unfit for any use but that of kindling a fire in the furnace. The fact that crude drugs play a much less important role in the ordinary retail drug trade than formerly makes it all the more important that this department receive closer attention. Purchases should be small, bought from reliable sources, kept in proper containers and in the case of potent drugs like Digitalis whose potency is fleeting, purchased at the collecting period. When we are compelled to take our own medicine we are careful to see that it is active and will produce results and for humanity's sake when our neighbor is ill should we be less thoughtful for his recovery?

There is no profession or calling in which there is any place for a man without character much less do we want him in ours.

The best informed merchant, the reliable citizen, the people's confidant, oft times is their druggist and I am proud to report that Drug Inspection is having its moral effect and that the Liquor Druggist and Dopesther is fast becoming the exception and the new view point will give us a clearer, cleaner vision of a new, progressive and better Pharmacy.

M. A. JONES,
Drug Inspector.

AN AMBITION PRODUCER.

Some time ago the head of this department picked up a Detroit paper which contained the picture of a full grown man in the act of jumping about four feet high. The picture was supposed to represent a man's feelings and actions after taking a box of Kelloggs' Sanitone Wafers made by the F. J. Kellogg Company of Battle Creek, Michigan.

Now the writer has had many moons pass over his head, until by the nature of things he has not only grown old but stout and pudgy and he was naturally attracted by any medicine that proposed to restore his youth to the extent that he could kick up his heels four feet high. So the Advertisement was placed in the hands of an employee with instructions to ascertain the facts about this Battle Creek ambition developer. The inquiry brought the always ready testimonials and literature and follow-up letters. Sanitone Wafers were described as the "Greatest nerve vitalizer ever known." Sanitone Wafers are recommended as a remedy for "Insomnia, brain fag, drowsiness, lack of energy, melancholy, hysteria, blue spells, St. Vitus Dance, Locomotor Ataxia, loss of ambition, poor memory, bashfulness, tired feeling and neuralgia." The literature claimed that one box at \$1.00 would, as President Roosevelt would say, make you feel "bully" but the letters claimed that six boxes for \$5.00 were necessary for permanent relief. After a few follow-up letters the price came down to \$3.60. An analysis of these wafers by the State Chemists showed each tablet to weigh 12

grains. Of this 5 grains formed the outside coating; inside were $5\frac{1}{2}$ grains of Chromium Sulphate, a green pigment used by painters, $\frac{4}{5}$ of a grain of Phenolphthalein, a purgative derived from coal tar, and $\frac{1}{2}$ grain of Red Pepper.

If anyone thinks that green paint, red pepper and a coal tar product with an unpronounceable name will cure all nervous diseases from Bashfulness to St. Vitus Dance, he can get the above formula put up for about 1/10 of the advertised price. As for the writer he is a "doubting Thomas" and has no faith in the efficacy of Green Paint, Red Pepper and Coal Tar to restore lost ambition. Rather than paint our insides red and green we prefer to remain nervous and bashful. But we have no objection to other people trying it if they want to.

HOPE FOR THE HOMELY.

We don't know what the ladies of the state would do if that eminent philanthropist Mrs. Mae Martin should discontinue her "Health and Beauty Hints:" to be found in the leading newspapers. Weekly, Mrs. Mae pays out her good money to the leading papers to tell the sisters how to increase and preserve their beauty by using certain "Home made" Remedies that she prescribes.

Next to our old and dear friend Lydia A. Pinkham, Mrs. Mae Martin appears to be one of the foremost benefactors of her sex; but Mae's great forte is to prescribe external remedies to render lovely women still more lovely.

In a recent issue of one of the leading papers of Michigan an inquirer who signs her name "anxious" and whom it appears is troubled with a prospective crop of whiskers, is answered that "Delatone" will mow off the superfluous growth cleaner than a lawn mower. "Delatone" when analyzed by this department was found to be composed of 80% starch and 20% sulphide of Barium. It costs about one cent to prepare the amount of "Delatone" Mae recommends, but she has generously fixed it up with the druggist so you can buy this hair exterminator for \$1.00.

"Genevieve" wants a shampoo to clean her hair that she doesn't want to remove, and Mrs. Mae exultingly tells her that "Canthrox" will do the business so nicely that sweet Genevieve will "never again permit the use of soap" on her head. The funny thing about this statement is that "Canthrox" was found by our chemists to consist of soap and salsoda. Mrs. Mae has arranged with the druggist to sell you a cent's worth of soap and salsoda for 50 cents.

"Auntie" who appears to be having trouble with her liver is losing her strength, complexion and weight, is informed that that "old fashioned Kardene Tonic" is just the checker. One ounce of "Kardene" dissolved in alcohol makes it. "Kardene" was found on analysis to be composed of Iron and Ammonium Tartrate, Tartaric Acid Quinine and Sugar. Mrs. Martin assures "Auntie" that it "will make you weigh just what you want to." What lady could refuse to use "Kardene" in the face of this statement?

"Lucy" has ruined her complexion by too much powder (whether Gun Powder or Insect Powder she does not specify) but in any event Mae

assures Lucy that "Spurmax"—6 ounces dissolved in witch hazel and Glycerine, will give a "rosy blush and velvety smoothness and bring back the healthy glow of youth to the aged, weather marred and powder ruined skin." Why should "Lucy" hesitate after this effusion especially as the "Spurmax" will only cost her 50 cents. Our chemists found "Spurmax" to consist of scented and colored Epsom Salts. Epsom Salts cost Mae three cents a pound. "Lucy" pays at the rate of \$1.33 per pound for it under the name of "Spurmax." But then you know "Mae" has to have some extra money to pay advertising bills.

"Jennie" has some irritation of the scalp and wants relief. Now being a mere man the writer, if Jennie had appealed to him, would probably have prescribed insect powder. But Mrs. Mae with that wonderful intelligence that she possesses of all female beauty troubles, tells "Jennie" that an ounce of "Quinzoin" dissolved in alcohol and water will not only remove the irritation but will also bring "a beautiful growth of long silken hair." We would try this ourselves only "silken hair" wouldn't match the balance on our head. "Quinzoin" which sells for 50 cents and costs 2 cents is composed of Baking Soda 40%, Quassia 58%, Quinine 2%.

"Annice" has sure got some real troubles. She wants something to "banish the wrinkles, round out the hollows and restore natural beauty." "Annice" is assured that all she has to do to bring about this simple result is to dissolve some "Almozoin" in water and glycerine and apply the solution to the hated facial defects and—"Presto Change"—"Almozoin" only sells for 50 cents and costs 5 cents to make. Our analyst found it to consist of Borax 40%, Magnesia 20% and Gum Tragacanth 40%.

Mrs. Mae has got a few more "zoinies" and maxes," etc., which reduce flesh, "restore graceful lines to the form" and perform other miracles.

We haven't space to tell you about them now but we can only wonder how any Michigan woman can be other than beautiful as long as Mae Martin and her Beauty Column appear weekly in the newspapers.

A CURE FOR DISAPPOINTED LOVE.

Advertisements of the Ensign Remedies Company at Battle Creek, Michigan, attracted the attention of this department some time ago and an employe was instructed to answer the "ad." The literature sent him in response consisted of two booklets extolling the virtues of the Ensign Remedies.

The Ensign Remedies in these booklets are recommended for all the diseases, mental and physical, that men and women are heir to and then some; the only disease we can think of that is not mentioned in the book being "political itch."

Among the diseases specifically recommended for treatment by the Ensign Remedies are Deafness, Barber's Itch, Goitre, Gray Hair, Bunions, Cancer, Bow Legs, Lock Jaw, Ingrowing Toenails, Tooth Ache, Tuberculosis, Small Pox, Warts, Worms, Rheumatism, Paralysis, Rup-ture, Mumps, Tobacco Habit, Epilepsy, Cross Eyes, Cataract, Emaciation

and Corpulency. The various Remedies have all the same outward appearance. Each consists of a small vial holding 4 drams containing small white pellets about the size of a mustard seed. The price is \$1.00 per vial and six pellets is a dose. The different remedies which are to be taken internally are distinguished from each other by numbers and letters.

A distinguishing feature is the use of internal remedies for mental diseases. According to their booklet if you are bashful you should take Remedy 186 A. If you have delusions that you see animals and reptiles, you should take 187 A and B but if you only "see" persons and people then 187 E and F is the proper thing. If you have a religious delusion that you are "lost and damned," the book says take 187 L and M, but if you only "despair of your soul's salvation" take 188 E and F.

For stage fright the book recommends 205 A and B. If you are disappointed in love you are also advised to take 205 A and B, but if you are married and your wife is jealous, give her 195 A and B. If the hired man is lazy and lacks ambition, the book recommends 196 A and B, but if he is only "obstinate and unreasonable" give him 199 A and B. If you have a general tendency to commit suicide, take 202 A and B but if the tendency is to suicide by the razor route, the book advises 202 E and F, but if you prefer the gun route, then the book advises 202 G and H.

What are these remedies that cure everything from Cancer to Corpulency; from Disappointed Love to Ingrowing Toenails. In the literature it is called the "Biochemic Treatment."

Ensign says "whatever is sufficient to build a human body is sufficient to keep it in repair." The Booklet says, "The Ensign Remedies are composed of Food Stuffs and substances necessary to every human body." The Booklet also states "These Remedies are to be relied on in the most dangerous ailments. The Appropriate remedy will relieve pain more quickly and certainly than the most powerful drug."

The booklet also states "Remember you are not taking medicine, but absolutely essential material, which will be used if needed and thrown off as waste if it is not."

Our drug analyst sent for the respective cures for Appendicitis, Hay Fever and Pneumonia. His analysis of each remedy showed each to be composed of 100% sugar. We doubt the efficacy of sugar as a cure for love sickness where the system is already over-clogged with sweetness. Perhaps it might do for Jealousy or Irritable Dispositions. Anyhow if residents of Michigan want to try the sugar cure for all diseases, let us suggest that instead of buying the Ensign Remedies at \$1.00 per vial which is at the rate of \$59 a pound for sugar, that they take as much sugar as can be held on the point of a pen knife three times per day. It will probably accomplish fully as satisfactory results. It is only fair to state that the Ensign Remedy Company claim to us that the potency of the medicine in these sugar tablets is so great that it is impossible for our Drug Analyst to find it by any known methods of analysis. We leave the reader with an open mind to decide this question.

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surround- ings.
Allegan Co., July:					
R. Hunsiker Cream Station	Pullman	R. Hunsiker			Good
A. Meyers Cream Station	Pullman	A. Meyers			Good
Pearle Cooperative Creamery	Pearle	A. L. Brown		83,318	Good
Berrien Co., July:					
Barlow Bros. Creamery	St. Joseph	Barlow Brothers	886,540		Good
Berrien Center Elgin Creamery	Berrien Center	Berrien Center El. Cre.		81,612	Fair
Coloma Creamery Association	Coloma	Geo. W. Grant	2,397,642	119,075	Good
Twin City Creamery Co.	Benton Harbor	W. T. Parks	1,116,014		Good
Watervliet Creamery Co.	Watervliet	Martin Hansen	2,740,618	116,785	Good
Cass Co., July:					
Dowagiac Creamery & Butter Co.	Dowagiac	J. S. Green		86,315	Good
Clare Co., July:					
Clare Creamery Co.	Clare	J. M. Davis			Good
Michigan Creamery Co. Station	Clare	Ed. Hanley			Good
Swift & Co. Station	Clare	W. B. Strong			Good
W. E. Vance	Clare	W. E. Vance			Good
Delta Co., July:					
Bark River Creamery	Bark River	Phil Labrie		62,486	Good
Escanaba Dairy Co.	Escanaba	A. J. Valentine			Good
Genesee Co., July:					
Montrose Home Creamery	Montrose	W. G. Herman		70,000	Good
Grafton Co., July:					
Breckenridge Creamery Co.	Breckenridge	Fred Eldridge		350,000	Good
Breckenridge Creamery Co., Cream Sta.	Breckenridge	John Brick			Good
Carnicorn Cream Station	St. Louis	P. Carnicorn			Good
Ithaca Creamery Co.	Ithaca	Doran & McCredie		200,000	Good
Swift & Co.	St. Louis	Hamp & Hamp			Good
H. J. Weed	Breckenridge	H. J. Weed			Good
Ionia Co., July:					
Farmers' Cooperative Creamery	Saranac	D. P. Barton			Good
Orleans Creamery Co.	Orleans	C. Liebum		1,468,283	Good
Isabella Co., July:					
Shepherd Creamery	Shepherd	C. L. Hokmeyer		50,000	Good
Swift & Co.	Shepherd	Glen Whitside			Good
Kalamazoo Co., July:					
Riverside Creamery	Galesburg	Stafford & Barnham		82,419	Good
Lapeer Co., July:					
Lapeer County Creamery	Lapeer	Roy Frary		100,000	Good
Menominee Co., July:					
Ingalls Creamery	Ingalls	J. H. Noppenburg		24,941	Good
Nadeau Creamery	Nadeau	Nadeau Bros.		49,612	Good
Stephenson Creamery	Stephenson	H. E. Jahnke			Fair
Midland Co., July:					
Coleman Creamery Co.	Coleman	Chas. Keyworth		100,000	Good
Farmers Dairy Co.	Coleman	F. L. Ferguson		81,000	Good

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean												
Clean												
Clean	Good				Clean		Good	Clean	Good	Good		
	Good		Clean		Clean		Clean	Good	Good	Good	Good	
Clean	Good		Clean		Clean		Fair	Good	Good	Fair		90
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Good	Clean	Good	Good	Fair	95
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Good	Clean	Good	Good	Good	94
Clean	Good				Clean		Good	Clean	Good	Good		94
Good	Good			Good	Good		Good	Good	Good	Good		90
Good												
Good												
Good												
Clean	Good				Clean		Good	Clean	Good	Good		90
Good	Good				Good		Good		Good	Good		91
Good	Good				Fine		Good	Fine	Fine	Good		93
Good	Good											
Good	Good		Good		Good	Good	Good	Good	Good	Good	Good	93
Clean												
Good	Good				Good		Fair	Poor	Fair	Poor		93
Good	Good		Good	Good	Fine	Clean	Good	Good	Good	Good	Good	91
Good	Good				Fine		Good	Good	Good	Good		90
Good												
Clean					Clean		Good	Clean	Good	Good		92
Good	Good				Good		Good	Good	Good	Good		92
Clean	Clean			Clean	Clean		Fair	Clean	Good	Good		90
Clean	Clean	Good		Clean	Clean		Good	Clean	Good	Good		90
Clean	Clean	Good				Clean		Good	Clean	Good	Good	90
Good	Good		Good	Good	Good		Good	Good	Good	Good		90
Clean	Good			Good	Fine		Good	Good	Good	Good		90

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surroundings.
Saginaw Co., July:					
Maple Grove Elgin Butter Co.	Montrose	Ed. Beneke		65,000	Good...
St. Clair Co., July:					
Port Huron Creamery Co.	Port Huron	John Ruff		1,239,618	Good...
Van Buren Co., July:					
Bangor Creamery	Bangor	H. Wood & J. Trim		77,734	Good...
Hartford Creamery	Hartford	G. W. Schopbach		80,000	Fine...
Lawrence Creamery Co.	Lawrence	Lawrence Creamery Co	3,316,000	155,000	Good...
Wayne Co., July:					
Wolverine Creamery Co.	Detroit	Wolverine Cre. Co.			Good...
Calhoun Co., August:					
Marshall Creamery Co.	Marshall	Marshall Creamery Co		103,065	Good...
Genesee Co., August:					
Fenton Creamery	Fenton	Halpin Creamery Co		200,000	Good...
Goodrich Cooperative Creamery	Goodrich	S. H. Pearson		166,314	Good...
Jackson Co., August:					
Jackson City Creamery	Jackson	Z. Randolph		100,061	Good...
Lakeside Elgin Butter Co.	Grass Lake	J. M. Rohrer	4,088,179	223,527	Good...
Parma Butter Co.	Parma	Jos. Helmer	4,440,000	280,000	Fine...
Kent Co., August:					
Kent Creamery	Cedar Springs	W. H. Fowle		100,000	Good...
Rudell Creamery	Cedar Springs	Rudell Creamery Co.		100,000	Good...
Marquette Co., August:					
Skandia Creamery Co.	Skandia	K. C. Bekkinson		25,000	Good...
Monroe Co., August:					
Beckham Creamery Co.	Newport	G. W. Beckham	1,800,000		Fair...
Oakland Co., August:					
Durand Creamery Cream Station	Holly	Durand Creamery Co.			Good...
Towars Cream Station	Holly	Towars Wayne Co. Cre.			Fair...
Ogemaw Co., August:					
Ogemaw Creamery Co.	West Branch	H. H. Hennen			Good...
Rose Leaf Creamery	Rose City	W. A. Cook		100,000	Good...
Oscoda Co., August:					
Kneeland Creamery	Kneeland	W. A. Cook		40,000	Good...
Shiawassee Co., August:					
Detroit Creamery Co.	Owosso	Chas. Dingman		(New plant)	Good...
Washtenaw Co., August:					
Chelsea Cream Station	Chelsea	J. S. Cummings			Fair...
Chelsea Milk Depot	Chelsea	Towars Wayne Co. Cre.			Fair...

CREAMERIES.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good...	Good...				Good...		Good...	Fine...	Good...	Good...		92
Clean...	Good...	Clean...	Clean...	Clean...	Clean...		Good...	Clean...	Good...	Good...	Good...	90
Clean...					Clean...		Good...	Clean...	Good...	Fair...		91
Clean...	Good...				Clean...		Good...	Clean...	Good...	Good...		92
Clean...	Clean...	Clean...	Good...		Clean...	Clean...	Good...	Good...	Good...	Good...		93
Clean...					Clean...		Good...	Clean...	Good...	Good...	Good...	91
Clean...	Clean...	Clean...	Clean...		Clean...		Fair...	Clean...	Good...	Good...		93½
Clean...	Clean...				Clean...		Good...	Clean...	Good...	Good...		91
Clean...	Clean...	Clean...	Clean...		Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	94
Clean...				Clean...	Clean...		Good...	Clean...	Good...	Fair...		91
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Fair...	Clean...	Good...	Good...	Good...	93
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	94
Good...	Good...			Good...	Good...		Good...	Clean...	Good...	Good...		92
Good...	Good...			Good...	Good...		Good...	Clean...	Good...	Good...		92
Good...	Good...			Good...					Good...	Good...		90
	Clean...	Clean...	Clean...		Clean...		Fair...		Fair...	Fair...	Good...	
Clean...												
Clean...												
Good...												
Good...				Good...	Fine...		Good...	Good...	Good...	Good...		92
Good...							Good...		Good...	Good...		92
Good...	Good...				Good...			Good...	Good...	Good...		90
Good...	Good...		Good...		Good...	Good...				Good...	Good...	
Clean...												
Clean...		Clean...	Clean...	Clean...	Clean...		Fair...		Good...	Good...	Good...	

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese, pounds.	Style.
Genesee Co., July:					
Montrose Cheese Co.....	Montrose.....	M. C. Dowd.....			Soft Michigan.
State Road Cheese Factory.....	State Road.....	State Road Cheese Co...	844,619	83,212	Soft Michigan.
Gratiot Co., July:					
St. Louis Cheese Co.....	Wheeler.....	J. Miner.....			Michigan Soft Cheddar.
Menominee Co., July:					
Carney Cheese Factory.....	Carney.....	J. H. Hannon.....	126,419	12,987	Mich. Soft.
Nadeau Cheese Factory.....	Nadeau.....	S. Matheys.....	126,490	13,116	Mich. Soft.
Palestine Cheese Factory.....	Palestine.....	R. Sturdy.....			Mich. Chedd.
Stephenson Cheese Factory.....	Stephenson.....	W. Landree.....	384,000	39,214	Mich. Chedd.
Saginaw Co., July:					
Oakley Cheese Co.....	Oakley.....	Geo. Peters.....			Cheddar.
Genesee Co., August:					
Thetford Cheese Factory.....	Thetford.....	A. J. Bratason.....	326,312	32,119	Soft Michigan.
Vienna Cheese Factory.....	Vienna Twp.....	Vienna Cheese Factory...	360,000	361,119	Soft Michigan.
Iosco Co., August:					
Hale Cheese Factory.....	Hale.....	John H. Carey.....	278,000	28,000	Soft Michigan.
Ogemaw Co., August:					
Ogemaw Cream Cheese Co.....	Lupton.....	E. C. Sortor.....	300,000	30,000	Soft Michigan.

CHEESE FACTORIES.

Cheesemaker.	Sanitary surround- ings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
M. C. Dowd.....	Good....	2 good...	1 gang....		Good.....	Good....	6 H. P.	Fair.....	Natural.
F. M. Eggleston.....	Fair.....	2 clean...	1 gang....		Fair.....		10 H. P.	Medium..	
John Miner.....	Good....	1 good...			Good.....		6 H. P.	Fair.....	Natural.
J. H. Hannon.....	Good....	1 clean...	1 gang....		Fair.....		10 H. P.	Good.....	
J. Bonlanger.....	Fair.....	1 clean...	1 gang....		Fair.....		6 H. P.	Good.....	
R. Sturdy.....	Good....	1 clean...	1 gang....		Clean.....		5 H. P.	Fine.....	
W. Landree.....	Good....	1 clean...	1 gang....		Clean.....			Good.....	
A. H. Roof.....	Good....	2 good...	1 gang....		Good.....		10 H. P.	Good.....	Natural.
Claud Chrieler.....	Good....	2 clean...	1		Fair.....		10 H. P.	Fair.....	
L. M. McCoy.....	Fair.....	1 clean...	1		Dirty.....		6 H. P.	Fair.....	
John H. Carey.....	Good....	1 fine ...	1	Yes	Good.....		8 H. P.	Very good	
David E. Baker.....	Good....	1 good...	1		Fair.....		10 H. P.	Fair.....	

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Daily production of milk in pounds.	Breed.
Allegan Co., July:						
B. M. Estes.....	Otsego.....	Alamo Creamery.....	5	5	.....	Mixed.....
John Hayes.....	Otsego.....	Alamo Creamery.....	4	4	.....	Mixed.....
B. F. Johnson.....	Otsego.....	Alamo Creamery.....	7	7	.....	Mixed.....
Chas. Kisinger.....	Otsego.....	Alamo Creamery.....	10	10	.....	Mixed.....
Jos. Lindsey.....	Otsego.....	John Vanderschaaf.....	16	13	.....	Mixed.....
Chas. McElwain.....	Otsego.....	Alamo Creamery.....	3	3	.....	Mixed.....
Bert Miller.....	Otsego.....	Alamo Creamery.....	5	3	.....	Mixed.....
Henry Mooney.....	Otsego.....	Alamo Creamery.....	8	8	.....	Mixed.....
Myro & Pierce.....	Otsego.....	Alamo Creamery.....	2	1	.....	Mixed.....
Stephen Pierce.....	Otsego.....	John Vanderschaaf.....	10	8	.....	Mixed.....
Fred Russon.....	Otsego.....	Alamo Creamery.....	7	7	.....	Mixed.....
Albert Scramlin.....	Otsego.....	Alamo Creamery.....	5	5	.....	Mixed.....
John H. Snyder.....	Otsego.....	Alamo Creamery.....	5	5	.....	Mixed.....
Frank Rupert.....	Otsego.....	Alamo Creamery.....	6	6	.....	Mixed.....
V. P. Smith.....	Plainwell.....	Alamo Creamery.....	8	5	.....	Mixed.....
Herbert Yerrick.....	Otsego.....	Lewis & Lewis.....	14	9	.....	Mixed.....
Lewis Yarrick.....	Otsego.....	Lewis & Lewis.....	14	14	.....	Mixed.....
Kalamazoo Co., July:						
Henry Ames.....	Alamo.....	Alamo Creamery.....	3	2	.....	Mixed.....
V. J. Bachelidor.....	Alamo.....	Alamo Creamery.....	7	6	.....	Mixed.....
D. J. Barber.....	Alamo.....	Alamo Creamery.....	5	3	.....	Mixed.....
C. W. Bennett.....	Alamo.....	Kalamazoo Creamery.....	21	20	.....	Mixed.....
Edward Bingham.....	Alamo.....	Alamo Creamery.....	3	2	.....	Mixed.....
F. L. Deal.....	Williams.....	Alamo Creamery.....	9	9	.....	Mixed.....
S. E. Fagielius.....	Alamo.....	Alamo Creamery.....	8	6	.....	Mixed.....
Edwin Hackley.....	Alamo.....	Alamo Creamery.....	10	6	.....	Mixed.....
Herbert Harrison.....	Kalamazoo.....	Alamo Creamery.....	2	2	.....	Mixed.....
Whitford Harrington.....	Alamo.....	Alamo Creamery.....	4	4	.....	Mixed.....
Joseph Hipp.....	Alamo.....	Alamo Creamery.....	2	2	.....	Mixed.....
Frank Hofaker.....	Alamo.....	Alamo Creamery.....	2	2	.....	Mixed.....
Andrew Hokanson.....	Alamo.....	Alamo Creamery.....	5	5	.....	Mixed.....
Harry Hollowell.....	Alamo.....	Alamo Creamery.....	6	6	.....	Mixed.....
Geo. Holmes.....	Alamo.....	Alamo Creamery.....	3	3	.....	Mixed.....
Harry Hoyt.....	Alamo.....	Alamo Creamery.....	6	6	.....	Mixed.....
Spencer E. James.....	Alamo.....	Alamo Creamery.....	6	6	.....	Mixed.....
Henry Medema.....	Alamo.....	Alamo Creamery.....	5	5	.....	Mixed.....
Albert Mott.....	Plainwell.....	Alamo Creamery.....	4	4	.....	Mixed.....
Fred Parmeley.....	Alamo.....	Alamo Creamery.....	7	6	.....	Mixed.....
John Patterson.....	Alamo.....	Alamo Creamery.....	6	6	.....	Mixed.....
Peattling & Slack.....	Alamo.....	Alamo Creamery.....	8	8	.....	Mixed.....
Henry Piper.....	Alamo.....	Alamo Creamery.....	6	6	.....	Mixed.....
Anson Rector.....	Alamo.....	Alamo Creamery.....	3	3	.....	Mixed.....
Walter Rector.....	Alamo.....	Alamo Creamery.....	7	6	.....	Mixed.....
W. F. Steinman.....	Alamo.....	Alamo Creamery.....	3	3	.....	Mixed.....
O. S. Sweetland.....	Alamo.....	Alamo Creamery.....	5	4	.....	Mixed.....
A. Tallman.....	Alamo.....	Alamo Creamery.....	15	10	.....	Mixed.....
Edw. Upham.....	Alamo.....	Alamo Creamery.....	11	9	.....	Mixed.....
Roy Vanderberg.....	Alamo.....	Alamo Creamery.....	5	1	.....	Mixed.....
Edward Webber.....	Alamo.....	Alamo Creamery.....	6	4	.....	Mixed.....
Clifford Willis.....	Alamo.....	Alamo Creamery.....	3	2	.....	Mixed.....
Ed. Williams.....	Alamo.....	Alamo Creamery.....	8	8	.....	Mixed.....
Al. Williams.....	Alamo.....	Alamo Creamery.....	2	2	.....	Mixed.....
Van Buren Co., July:						
Guy Becker.....	Kendall.....	Sells Butter.....	8	5	.....	Mixed.....
Geo. Carl.....	Kendall.....	Alamo Creamery.....	2	1	.....	Mixed.....
Fred May.....	Kendall.....	Alamo Creamery.....	7	5	.....	Mixed.....
Earl McNamara.....	Kendall.....	Alamo Creamery.....	4	3	.....	Mixed.....
Edwin Pickard.....	Kendall.....	Alamo Creamery.....	7	7	.....	Mixed.....
Wm. Richards.....	Kendall.....	Alamo Creamery.....	4	4	.....	Mixed.....
J. B. Yount.....	Kendall.....	Alamo Creamery.....	6	6	.....	Mixed.....

DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Pasture, corn, oats.	No.	Door.	No.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	No.	Yes.	Drive well.
Pasture.	No.	Door.	No.	Yes.	Drive well.
Pasture.	No.	Door.	No.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	Medium.	Yes.	Drive well.
Pasture.	No.	Door.	No.	Yes.	Drive well.
Pasture.	No.	Door.	No.	Yes.	Drive well.
Pasture, corn, oats.	Medium.	Door.	No.	Yes.	Drive well.
Pasture, bran.	No.	Door.	No.	Yes.	Drive well.
Pasture, bran, middlings.	Yes.	Door-windows.	Yes.	Yes.	Drive well.
Pasture, corn, oats.	Medium.	Door.	Yes.	Yes.	Drive well.
Pasture, corn, oats.	Medium.	Door.	Fair.	Yes.	Drive well.
Pasture.	Medium.	Door.	Medium.	Yes.	Drive well.
Pasture.	No.	Door.	Fair.	Yes.	Drive well.
Pasture, corn, silage.	Medium.	Door.	Fair.	Yes.	Drive well.
Pasture, corn, oats.	Fair.	Door.	Yes.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	Fair.	Yes.	Drive well.
Pasture.	No.	Cracks.	No.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	Medium.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	No.	Yes.	Drive well.
Pasture, silage.	No.	Door-window.	Fair.	Yes.	Drive well.
Pasture.	Fair.	Door-window.	Yes.	Yes.	Drive well.
Pasture, hay, corn.	No.	Door.	No.	Yes.	Drive well.
Pasture, corn.	Fair.	Cracks.	Fair.	Yes.	Drive well.
Pasture.	No.	Cracks.	No.	Yes.	Drive well.
Pasture.	Medium.	Cracks.	No.	Yes.	Drive well.
Pasture, corn, oats.	No.	Cracks.	No.	Yes.	Drive well.
Pasture.	No.	Cracks.	No.	Yes.	Drive well.
Pasture, corn, oats.	Medium.	Door.	Yes.	Yes.	Drive well.
Pasture, silage.	No.	Door.	Fair.	Yes.	Drive well.
Pasture, corn, oats.	No.	Cracks.	No.	Yes.	Drive well.
Pasture, silage, corn, oats.	Medium.	Door.	Fair.	Yes.	Drive well.
Pasture, silage.	No.	Door-windows.	No.	Yes.	Drive well.
Pasture.	Yes.	Door.	Yes.	Yes.	Drive well.
Pasture, corn.	Medium.	Door.	No.	Yes.	Drive well.
Pasture.	No.	Door.	No.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	No.	Yes.	Drive well.
Pasture, silage.	No.	Door.	No.	Yes.	Drive well.
Pasture, silage.	No.	Door.	No.	Yes.	Drive well.
Pasture, silage.	No.	Door.	Medium.	Yes.	Drive well.
Pasture.	Medium.	Cracks.	Fair.	Yes.	Drive well.
Pasture, middlings.	Medium.	Door.	Yes.	Yes.	Drive well.
Pasture, silage, cornfodder.	No.	Door.	Poor.	Yes.	Drive well.
Pasture, corn, oats, bran.	Medium.	Door.	Yes.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	Medium.	Yes.	Drive well.
Pasture.	Fair.	Cracks.	Fair.	Yes.	Drive well.
Pasture, corn, oats.	No.	Cracks.	Poor.	Yes.	Drive well.
Pasture, corn, bran, oats.	No.	Cracks.	No.	Yes.	Drive well.
Pasture, corn, oats.	Fair.	Cracks.	Fair.	Yes.	Drive well.
Pasture, bran.	Fair.	Cracks.	Fair.	Yes.	Drive well.
Pasture.	No.	Door.	Fair.	Yes.	Drive well.
Pasture.	No.	Door.	No.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	No.	Yes.	Drive well.
Pasture.	No.	Door.	Medium.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	No.	Yes.	Drive well.
Pasture, corn.	Fair.	Door.	No.	Yes.	Drive well.
Pasture, corn, oats.	No.	Door.	No.	Yes.	Drive well.

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Alamo, August:											
F. E. Russell.....	80	77	75	75	87	394	Poor.....	.....	.....	.....	.....
Battle Creek, August:											
A. M. Johnson.....	80	80	78	75	85	398	Poor.....	.....	.....	.....	.....
Wolcott Littlejohn.....	76	50	75	75	85	361	Poor.....	.....	.....	.....	.....
Frank Morgan.....	77	69	65	72	83	366	Poor.....	.....	.....	.....	.....
Charlotte, August:											
John Blair.....	75	35	75	75	87	347	Poor.....	.....	.....	.....	.....
Holland, August:											
Henry Brinkman.....	78	30	73	75	73	329	Poor.....	.....	.....	.....	.....
Simon Harkema.....	78	40	70	80	95	363	Poor.....	.....	.....	.....	.....
John Heskink.....	76	38	75	75	90	354	Poor.....	.....	.....	.....	.....
John Tin Holt.....	81	59	79	75	87	381	Poor.....	.....	.....	.....	.....
H. De Pree.....	93	82	78	77	45	375	Poor.....	.....	.....	.....	.....
A. Van Der Sedder.....	76	67	81	75	96	395	Poor.....	.....	.....	.....	.....
L. H. Van Huis.....	64	29	75	75	85	328	Poor.....	.....	.....	.....	.....
Iron Mountain, August:											
Alex. Anderson.....	90	65	80	85	65	385	Poor.....	4.4	29.	12.53	8.13
Geo. Nicolati.....	82	70	70	80	65	367	Poor.....	.....	.....	.....	.....
Rich. Pollard.....	85	95	85	95	75	435	Medium.....	.....	.....	.....	.....
Aug. Wickman.....	90	80	65	95	70	400	Medium.....	4	29.5	12.175	7.375
Marquette Co., August:											
Longyear's Emblegaard Dairy..	100	100	95	100	100	495	Excellent.....	.....	.....	.....	.....

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1913

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING

JAMES W. HELME.....	COMMISSIONER
FERN L. SHANNON.....	STATE ANALYST
M. J. SMITH.....	CHIEF CLERK
A. R. TODD.....	DRUG ANALYST

SOME FACTS ABOUT JELLIES.

Away back in the last century when the writer was a boy, his favorite food was jelly cake. Any boy who was a boy in the last century can remember the jelly cake that mother used to make. There were generally eight or nine layers of cake not very thin and the same number of layers of jelly which were nearly as thick as the cake and this jelly was real jelly made in the household from fruit like the currant, the grape, the apple or the crab apple and it had no color in it except that given to it by nature in her great laboratory. Naturally jelly cake made from this kind of jelly became a favorite human food and from the home it naturally gravitated to the bakery. Here of course, commercial processes began to cheapen its cost and in order to cheapen its cost material was likewise cheapened. It was found that the use of pure fruit jelly in commercial baked goods was expensive and in order to cut down the expense and thus increase the profit, substitutes were looked for and as is generally the case the substitutes were found. There were placed on the market imitation jellies which had never seen any fruit. These jellies were made largely from glucose and dextrine. Glucose and dextrine are made solely from corn starch treated with muriatic acid, and never from any fruit. There was one defect, however, in the imitation jellies. In their natural condition as they came from the manufacturer, they were colorless and so they were not attractive, but the thrifty business man soon obviated this. Coal tar dyes furnish a large number of colors and soon we had the glucose jelly colored with a red coal tar dye, and a liberal mixture of Timothy seed added, put on the market as strawberry jelly. Other fruit colors were likewise imitated and the cheapness of these jellies drove the legitimate fruit jelly out of the market so far as the baked goods were concerned.

Michigan is the second largest fruit growing state in the Union and the legislature several years ago, in order to protect its fruit growers, enacted stringent laws which prohibit the coloring of any glucose jelly in imitation of fruit jelly. The law has not been as vigorously enforced in the past as it should have been but it is the intention of this department to enforce the law in the future against the coloring of any jelly that is not a fruit jelly. When the consumer goes into a bake shop and sees a jelly roll of nice red jelly, he naturally concludes it is a fruit jelly when there is not a bit of fruit used in its manufacture. In this way the coloring of glucose jellies becomes a fraud upon the consumer. There is nothing unwholesome in glucose jellies but when colored to imitate fruit jellies, they deceive the consumer and cause him to pay a higher price for them than he otherwise would and this is the reason that the coloring of imitation jellies is wrong morally as well as legally. Bakers who use colored imitation jellies are just as subject to the penalties of the law as the manufacturer who colors them.

Last year thousands of bushels of apples rotted on the ground for want of

market. In many sections the cider mills refused to buy cider apples because there was no profitable market for the cider and yet these mills are most of them equipped for making a superior quality of apple jelly from every bit of cider that can be manufactured. The reason they do not make it is because glucose jellies colored to imitate fruit jellies can be sold cheaper than apple jellies and for this reason are largely used by the baking trade. All inferior apples in Michigan can readily find market at the cider mill were it not for the unfair competition of colored glucose jellies and malt vinegar. In order that the Michigan fruit grower may have a legitimate market for his inferior apples and the Michigan consumer can receive pure fruit jellies and pure cider vinegar, this department will make a special effort in the future to enforce the laws governing the sale of jellies and vinegars that are not made from actual fruit.

THE NEW BEET SUGAR LAW.

The last legislature passed a law placing the inspection and testing of sugar beets with the Dairy & Food Department. Under the provisions of this law the chemist of the Agricultural College, the chemist of the Dairy & Food Department and the chemist of the Agricultural Experiment Station were made a Commission to formulate rules and regulations for the uniform weighing, taring and testing of all sugar beets in Michigan. This commission has already met and formulated rules and regulations providing for the weighing, taring and testing of all sugar beets used in Michigan Sugar Factories during the coming season. Copies of these rules and regulations have been printed and are required by law to be posted in all beet sugar factories and at all weigh stations.

The Dairy & Food Commissioner is authorized by this law to appoint two inspectors whose duty during the coming season will be to visit various sugar factories and personally see that these regulations are carried out. Both of these inspectors are to be competent beet sugar chemists who have had several years experience in sugar beet factories.

Under the provisions of this law any farmer who is furnishing sugar beets to any factory, if he is dissatisfied with the weighing and taring of his beets or with the analysis of the sugar content, can file a complaint with the Dairy & Food Commissioner at Lansing and this complaint will be promptly investigated by one of the Inspectors and the justice thereof determined.

The Dairy & Food Department also expected to test all scales used in weighing sugar beets throughout the State but owing to the non-arrival of weights and scales ordered last June, it will be impossible for the department to test all scales before the opening of the season. It is intended, however, to have the Inspector of weights and measures test as many scales as possible, and if any sugar beet grower is dissatisfied with weights received, he should make a complaint to this department and the scales of that particular weigh station will be promptly investigated and corrected if found necessary.

It is hoped by this law to do away with much dissatisfaction that has existed in former years relative to the analysis of the sugar beet content, as this year all factories in Michigan will pay for beets according to the content of sugar.

The law further provides that the salaries and expenses of sugar beet inspectors in enforcing this law shall be paid by the companies, and to provide a fund for this purpose every sugar beet factory at the close of the campaign is required to make a sworn statement of the number of tons of sugar beets sliced and they are also required to pay into the State Treasury an annual tax of $\frac{1}{10}$ ¢ per ton on all beets manufactured into sugar which fund is used to defray the expenses of this inspection. All weighmen, taremen and sugar beet chemists are required to take an oath that they will weigh and test sugar beets according to the rules and regulations prescribed by the State Commission. Copies of these oaths and regulations prescribed will be furnished by the Dairy & Food Department upon application. It is the intention of the Department to enforce this law vigorously in order that both the factories and the producers shall have a square deal and that all complaints on either side shall be satisfactorily adjusted.

SANDWICHES THAT ARE NOT EDIBLE.

With the approach of winter the dairy cows will soon be stabled and in a short time our Dairy Inspectors will be entering barns all over Michigan and there they will find a peculiar kind of sandwich. Sandwiches, as the reader knows, generally consist of a piece of meat with two outside covers. The sandwiches that our Dairy Inspectors will find in the Dairy barns might be called "fertilizer sandwiches." They consist of the cow in the middle and a great big slab of fertilizer on each side of her. Now the head of this department believes in conservation and the place for fertilizer is upon the fields of the farm and not upon the sides of the cow. Not only does the cow endure great discomfort by being placed in a fertilizer sandwich but when the milker sits down to milk, of necessity more or less of this covering will fall into the milkpail and eventually a part of it will be transferred to the city man's stomach. Now we hold no brief for the city man's stomach although the urban population in Michigan now comprises about 50% of the population. In other words during the coming winter over one million dwellers in towns and villages will all be carrying around in their stomachs more or less fertilizer which is obtained from the fertilizer sandwich in the dairy stables. This fertilizer is a plant food and not an animal food and when we think of the vast amount that will be carried around in the city man's stomach eventually to be wasted, we want to warn the dairymen of the state that here is a tremendous waste. The place for fertilizer is not in the city man's stomach where it is liable to impair his digestion more or less, but its true place is on the farms of the state to grow additional crops of corn and clover. This enormous waste can be avoided if the dairyman will only place in his barn the proper kind of stall whereby the cow will keep clean and a vast amount of fertilizer saved to enrich the land of the state.

There are several different kinds of sanitary stalls on the market but unfortunately they are quite expensive to install. To the dairymen who cannot afford from six to ten dollars per stall for each cow in his herd, this department offers the plan of a stall that is equally as effective in keeping cows clean and can be made by any farmer. This stall, which has been called the "model stall," has been in use by dairymen throughout the United States for ten or fifteen years. Some of the most prominent dairymen in

the country including such men as Ex-Governor Hoard, the Editor of Hoard's Dairymen, Ex-Governor Warner, Ex-Food Commissioner Lillie and numerous others have had these stalls in practical use for a great many years. The writer of this bulletin has had them in his barn for fifteen years and is still satisfied with them. With the proper use of these stalls it is absolutely impossible for any cow to convert herself into a fertilizer sandwich. The stall is not patented. Any farmer can build the same and it is cheaper to build and install than any other form of cow stalls. Moreover it is very humane because it gives the cow absolute freedom and no stanchions are used. A full description of how to build this stall with photographs of the same and complete working dimensions will be mailed to any person who will send their name and address to this department. To all who cannot afford to put in a high priced sanitary iron pipe stanchion, we know from personal experience that this stall will be equally effective in keeping cows clean and a large amount of fertilizer saved to the farm that installs them.

Under the laws of Michigan, milk and cream produced from cows covered with filth are not salable and it is to be hoped that every dairymen in the state who has not already installed a sanitary cow stall in his barn, will take advantage of this opportunity to see that his cows are kept clean and comfortable during the coming winter. Drop a postal card to the State Dairy & Food Department at Lansing requesting a description of this stall, and full working directions for making the same will be forwarded.

INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of September and October:

Addison, Adrian, Alamo, Albion, Allegan, Allenton, Amasa, Anderson, Ann Arbor, Ashley, Auburn, Au Gres, Augusta, Bangor, Bannister, Battle Creek, Bay City, Benton Harbor, Bergland, Berville, Bessemer, Big Rapids, Birch Run, Birmingham, Blanchard, Blissfield, Bloomingdale, Brant, Breckenridge, Bridgewater, Bronson, Cadillac, Capac, Carleton, Carney, Caro, Carrollton, Caseville, Cassopolis, Channing, Charlotte, Cheboygan, Chelsea, Chesterfield, Clare, Clio, Coldwater, Constantine, Corunna, Crosswell, Crystal Falls, Daggett, Deckerville, Detroit, Dimondale, Dodgeville, Dowagiac, Dundee, Durand, Eaton Rapids, Elsie, Elwell, Escanaba, Ewen, Fisherville, Flint, Flushing, Frederic, Fremont, Fowlerville, Galesburg, Garfield, Gaylord, Gilford, Grand Junction, Grand Ledge, Grand Rapids, Grayling, Hamburg, Hancock, Harrisville, Hartford, Hastings, Hayes, Henderson, Hermansville, Hickory Corners, Hillman, Hillsdale, Holland, Holloway, Holly, Hopkins, Houghton, Howell, Hudson, Ida, Ingalls, Iron River, Ironwood, Ithaca, Jackson, Jerome, Jonesville, Kalamazoo, Kawkawlin, Kinde, Lakeview, Lake Linden, Lansing, Lennon, LeRoy, Lincoln, Linwood, Litchfield, Loretto, Mackinaw, Macon, Marcellus, Marshall, Maybee, McBrides, McGregor, Mecosta, Menominee, Middleton, Mikado, Milan, Milford, Mitchell, Morenci, Monroe, Montgomery, Montrose, Morrice, Mt. Clemens, Mt. Pleasant, Mungers, Munising, Muskegon, Nadeau, Nashville, Niles, Norway, Oakley, Ola, Omer, Owendale, Owosso, Palatka, Parma, Petoskey, Pigeon, Pinconning, Pine River, Pittsford, Pompeii, Powers, Port Huron, Quincy, Ravenna, Reese, Remus, Ridgeway, Romeo, Roscommon, Ruby,

Saginaw, Saline, Sand Creek, St. Charles, St. Clair, St. Joseph, St. Louis, Schoolcraft, Sebewaing, Seneca, Shaftaburg, Sherwood, Shultz, Spalding, Springport, Stambaugh, Standish, Stanwood, Stephenson, Stockbridge, Swartz Creek, Tawas City, Three Rivers, Turner, Twining, Union City, Vanderbilt, Varney, Vassar, Vermontville, Vestaburg, Vicksburg, Vulcan, Wakefield, Walled Lake, Watersmeet, Watervliet, Wayne, Webberville, West Branch, Wheeler, White Cloud, White Pigeon, Whittemore, Wilson, Woodville, Wooster, Worth, Wyandotte, Ypsilanti.

PROSECUTIONS.

Since beginning of fiscal year July 1, 1913.

Cases pending September 1, 1913.....	47
Cases commenced since said date.....	36

CASES DISPOSED OF.

Before examining magistrates:	
Defendants bound over.....	34
Defendants discharged.....	7
In trial courts:	
Defendants convicted.....	57
Defendants acquitted.....	5
Cases pending November 1, 1913.....	14

In the case pending on appeal in the city of Detroit against John Noller charged with selling adulterated milk, October 9th, defendant acquitted.

In the case pending in circuit court, county of St. Joseph, against Ira Teeters of Niles charged with violation of the oleomargarine law, September 29, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending against Leroy Stevenson of Jackson charged with the sale of diseased hogs, August 6 defendant was bound over to circuit court for trial. September 30, defendant acquitted.

In the case pending against the proprietor of the Jackson Cafe, charged with conducting an insanitary restaurant, July 26 defendant bound over to circuit court for trial. September 30, defendant convicted. Fined \$30.

In the case pending in recorder's court, city of Detroit, against Bailey & Bottomley charged with selling camphorated oil not in conformity with U. S. P. requirements. October 18, defendant acquitted.

In the case pending in police court, city of Detroit, against F. P. Toal charged with selling camphorated oil not in conformity with U. S. P. requirements. July 18 defendant bound over to recorder's court for trial. October 1, defendant entered a plea of guilty. Fined \$25.

In the case pending in police court, city of Detroit, against W. C. Marx charged with selling camphorated oil not in conformity with U. S. P. requirements. July 18 defendant bound over to recorder's court for trial. September 3, defendant entered a plea of guilty. Fined \$25.

In the case pending in circuit court, county of St. Joseph, against Maynard J. Teed charged with using sulphites in the manufacture of Hamburg Steak. September 15, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in circuit court, county of St. Joseph, against Peter H. Hirsch charged with using sulphites in the manufacture of Hamburg Steak. September 15, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in circuit court, county of Jackson, against L. Ambs charged with selling lard compound without stamping. Defendant entered a plea of guilty. Sentence suspended.

In the case pending in circuit court, county of Jackson, against C. R. Longstreet, charged with selling lard compound without stamping. Defendant entered a plea of guilty. Sentence suspended.

In the case pending in justice court, city of Charlotte, against Bert Porter charged with selling adulterated lard, October 6 defendant bound over to circuit court for the county of Eaton for trial. October 13, defendant entered a plea of guilty. Fined \$25.

In the case pending in recorder's court, city of Detroit, against Michael Weise charged with using sulphites in the manufacture of Hamburg Steak. September 9, defendant entered a plea of guilty. Fined \$25.

In the case pending in circuit court, county of Jackson, against Buehler Bros. charged with selling lard compound without stamping same. Defendant entered a plea of guilty. Sentence suspended.

In the case pending in circuit court, county of Washtenaw, against G. B. Dunlap charged with selling lard compound without stamping same. September 22 defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in circuit court, county of St. Joseph, against Leo H. Reischke charged with using sulphites in the manufacture of Hamburg Steak. September 15, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in circuit court, county of Branch, against Hall & Kennedy of Coldwater charged with selling oleomargarine without displaying legal sign. October 13, defendant entered a plea of guilty. Fined \$50 and costs.

In the case pending in recorder's court, city of Detroit, against Ben Marx charged with using sulphites in the manufacture of Hamburg Steak. October 16, defendant entered a plea of guilty. Fined \$25.

In the case pending in recorder's court, city of Detroit, against Frank X. Sarbinowski charged with using sulphites in the manufacture of Hamburg Steak. October 18, defendant entered a plea of guilty. Fined \$25.

In the case pending in recorder's court, city of Detroit, against Samuel Ratner charged with using sulphites in the manufacture of Hamburg Steak. September 3, defendant entered a plea of guilty. Fined \$25.

In the case pending in police court, city of Detroit, against Bert Hunt charged with selling lard compound without stamping. August 19, defendant bound over to recorder's court for trial. Case nolle prossed.

In the case pending in police court, city of Detroit, against Adolph Bennert charged with using sulphites in the manufacture of Hamburg Steak. August 19, defendant bound over to recorder's court for trial. October 17, defendant entered a plea of guilty. Fined \$25.

In the case pending in recorder's court, city of Detroit, against Vincent Polmero charged with conducting an insanitary bakery. October 16, case nolle prossed.

In the case pending in police court, city of Detroit, against D. F. Christy charged with using sulphites in the manufacture of Hamburg Steak. August

26, defendant bound over to recorder's court for trial. September 14, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in recorder's court, city of Detroit, against John Coates, charged with using sulphites in the manufacture of Hamburg Steak. September 9, defendant entered a plea of guilty. Fined \$25.

In the case pending in recorder's court, city of Detroit, against D. M. Marx charged with using sulphites in the manufacture of Hamburg Steak. September 3, defendant entered a plea of guilty. Fined \$25.

In the case pending in police court, city of Detroit, against Adolph Marx charged with using sulphites in the manufacture of Hamburg Steak. October 15, defendant bound over to recorder's court. Defendant entered a plea of guilty and was fined \$25.

In the case pending in justice court, city of Three Rivers, against Adolphos L. Wilcox charged with selling adulterated milk. September 2, defendant was convicted. Fined \$5 and costs.

In the case pending in police court, city of Detroit, against Robert Hirt, Jr., charged with selling oleomargarine without posting legal sign. September 19 defendant was bound over to recorder's court for trial. October 11, defendant convicted. Fined \$50.

In the case pending in municipal court, city of Battle Creek, against George Williams charged with selling diseased meat. September 6, defendant bound over to circuit court for trial. September 8, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in the Superior court of Grand Rapids, against John Leff charged with selling adulterated lard. September 2, defendant entered a plea of guilty. Fined \$150 and costs.

In the case pending in justice court, city of Charlotte, against Henry Heyman charged with using sulphites in the manufacture of Hamburg Steak. September 4, defendant bound over to circuit court for trial. October 13, defendant entered a plea of guilty. Fined \$25.

In the case pending in police court, city of Detroit, against Joseph Kuki-elka charged with conducting an insanitary meat market. September 2, defendant bound over to recorder's court for trial. September 9, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in municipal court, city of Kalamazoo, against Leonard W. Reitkeark charged with selling adulterated milk. September 16, defendant entered a plea of guilty and was fined \$2.50 costs.

In the case pending in municipal court, city of Kalamazoo, against Frank P. Gould charged with selling diseased meat. September 17, defendant discharged.

In the case pending in the circuit court, county of St. Joseph, against Geiger & Burns charged with using sulphites in the manufacture of Hamburg Steak. October 6, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in the circuit court of Allegan county for trial against Henry O. Maentz charged with selling adulterated butter. October 6, defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made September 2 in police court, city of Detroit, against August Schmidt charged with using sulphites in the manufacture of Hamburg Steak. September 12, defendant was bound over to recorder's court for trial. October 18, defendant entered a plea of guilty. Fined \$25.

Complaint was made September 2 in justice court, city of Coldwater, against H. A. Straw charged with using sulphites in the manufacture of

Hamburg Steak. September 4, defendant bound over to circuit court of Branch county for trial. October 13, defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made September 3 in police court, city of Detroit, against Joseph Tansky charged with using sulphites in the manufacture of Hamburg Steak. September 9, defendant was bound over to recorder's court for trial. October 15, defendant, entered a plea of guilty. Fined \$25.

Complaint was made September 10 in police court, city of Detroit, against Carl Peischke & Herman Killian charged with selling sausage which contained an excessive amount of cereal. September 19, defendants bound over to recorder's court for trial. October 23, defendants convicted. Fined \$100.

Complaint was made September 10 in police court, city of Detroit, against Fred J. Toree, manager for Swift & Co., charged with selling sausage containing an excessive amount of cereal. September 19, defendant bound over to recorder's court for trial. October 21, defendant convicted. Fined \$100.

Complaint was made September 10, in police court, city of Detroit, against Konstan Seropolus, proprietor of the city meat market, charged with selling lard compound without stamping. September 19, defendant bound over to recorder's court for trial. October 15, defendant entered a plea of guilty. Fined \$50.

Complaint was made September 10 in justice court of Ithaca, against William Horton charged with selling lard compound without stamping. September 11, defendant bound over to circuit court for trial. September 12, defendant entered a plea of guilty. Sentence suspended.

Complaint was made September 10 in justice court of Ithaca, against W. H. McRae charged with selling lard compound without stamping. September 11, defendant bound over to circuit court of Gratiot county for trial. September 12, defendant entered a plea of guilty. Sentence suspended.

Complaint was made September 11 in police court, city of Detroit, against I. N. Daubmyre, manager of Childs Restaurant, charged with serving oleomargarine without displaying sign in conspicuous place. Case pending.

Complaint was made September 12, in justice court, city of Detroit, against Wm. Dittmar charged with selling adulterated milk. October 20, defendant convicted. Fined \$25 and costs.

Complaint was made September 12 in justice court, city of Detroit, against Adolph Moers charged with selling adulterated milk. October 20, defendant convicted. Fined \$25 and costs.

Complaint was made September 12 in justice court, city of Detroit, against Frank Tempel charged with selling adulterated milk. October 20, defendant dismissed.

Complaint was made September 13 in police court, city of Detroit, against John Pluff charged with selling oleomargarine without stamping. September 30, defendant bound over to recorder's court for trial. October 15, defendant entered a plea of guilty. Fined \$50.

Complaint was made September 16 in justice court against Robert Morris of Montrose, R. F. D. charged with selling adulterated milk. October 30, defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made September 17 in police court, city of Jackson, against Weber & Bossong charged with using sulphites in the manufacture of Hamburg Steak. September 17, defendants waived examination and were bound over to the circuit court for trial. Case pending.

Complaint was made September 17 in police court, city of Jackson, against Geo. Mollenkopf charged with using sulphites in the manufacture of Hamburg Steak. September 17, defendant bound over to circuit court for Jackson county for trial. Case pending.

Complaint was made September 18 in police court, city of Muskegon, against Dirk Mulder charged with conducting an insanitary place of business. Defendant bound over to circuit court of Muskegon county for trial. October 27, defendant entered a plea of guilty. Sentence suspended until February term.

Complaint was made September 22 in justice court, city of Pontiac, against N. D. Solon charged with serving oleomargarine without displaying sign. Case pending.

Complaint was made September 26 in police court, city of Muskegon, against Peter Kufta charged with conducting an insanitary bakery. October 26 defendant bound over to circuit court for trial. October 28, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made September 26 in police court, city of Muskegon, against Walter Kelesza charged with conducting an insanitary bakery. October 26 defendant bound over to circuit court for trial. October 28, defendant dismissed.

Complaint was made October 2 in police court, city of Muskegon, against Frank Goetzel charged with selling unwholesome veal. October 3, defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made October 2 in justice court of Monroe against J. P. Ackerman charged with selling adulterated milk. October 4, defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made October 2 in justice court of Monroe against J. H. Stotz charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made October 7 in justice court of Wilson, Menominee county, against Samuel Priestie charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made October 7 in justice court of Wilson, Menominee county, against Joseph Kosinski charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made October 8 in police court, city of Kalamazoo, against the Piper Ice Cream Company charged with selling ice cream below the legal standard. Defendant entered a plea of guilty. Fined \$55.

Complaint was made October 8 in police court, city of Detroit, against Ed. Conklin for using short measures. Case dismissed.

Complaint was made October 9 in justice court, city of Coldwater, against Dwight Miller charged with shipping ice cream cans which were in an insanitary condition. October 10, defendant entered a plea of guilty. Fined \$15.

Complaint was made October 14 in police court, city of Muskegon, against Dirk Mulder charged with the sale of adulterated lard. October 14, defendant bound over to circuit court for trial. October 27, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made October 14 in police court, city of Muskegon, against Thos. A. Wilkinson charged with deceptive advertising. October 31, defendant acquitted.

Complaint was made October 14 in police court, city of Muskegon, against Albert J. Wibolda charged with selling sausage which contained an excessive

amount of cereal. Defendant was bound over to the circuit court for Muskegon county for trial. October 28, defendant entered a plea of guilty. Sentence suspended until February term.

Complaint was made October 14 in police court, city of Muskegon, against Andrew Longland charged with selling oleomargarine without displaying proper sign. Defendant was bound over to the circuit court of the county of Muskegon for trial. October 28, defendant entered a plea of guilty. Sentence suspended until February term.

Complaint was made October 14 in police court, city of Muskegon, against John S. Anderson charged with selling adulterated lard. Defendant was bound over to the circuit court of the county of Muskegon for trial. October 28, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made October 15 in justice court, city of Battle Creek, against Raymond & Harry Schroder charged with deceptive and misleading advertising. Dismissed. New complaint and warrant issued.

Complaint was made October 16 in police court city of Muskegon, against Nicholas Kuris charged with conducting an insanitary restaurant. Defendant bound over to the circuit court of the county of Muskegon for trial. October 29, defendant acquitted.

Complaint was made October 25 in justice court, city of Battle Creek, against Elmer L. Cole charged with the sale of adulterated milk. October 31 defendant was convicted. Fined \$15 and costs.

Nov. 1, 1913.

Hon. James W. Helme,
Lansing, Michigan.

Dear Sir:—

I herewith hand you my report on the work done in the Department laboratory during the months of September and October.

A total of 179 samples were analyzed; 97 were declared adulterated, misbranded or illegal, while 82 were found to comply with the statute in every respect.

Four samples of canned vegetables were examined; two of them were found to be adulterated and one was found to be misbranded. The two that were adulterated were procured in different sections of the state and both contained copper sulphate, commonly known as blue vitriol. This was added for the purpose of keeping the vegetables green. The Board of Consulting Scientific Experts of the United States Department of Agriculture, after a careful study, have reported as follows:

“It appears from our investigations that, in certain directions, even such small quantities of copper may have a deleterious action . and must be considered injurious to health.”

These products were therefore declared adulterated for the reason that they contained a substance which is injurious to health.

Of the sixteen samples of Hamburg Steak examined but two were found to contain sulphurous acid or salts thereof,—a much better showing than the months of July and August. Of the sixty-one samples examined during this period 36 or about 60% were adulterated.

Fourteen of the fifteen samples of Oleomargarine were found either illegally sold, misbranded or adulterated, as the appended report will show.

A sample of rice was taken from a “Chop Suey” restaurant in Detroit. It was found to be coated with glucose and talcum.

Five samples of soft drinks were examined and all were found to comply with the law. They were examined for saccharin and other injurious substances. This speaks well for the investigation of soft drinks made about one year ago during when it was found that saccharin was used in nearly all soft drinks sold in the state.

Yours respectfully,

F. L. SHANNON,

State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Buckwheat groats	1	1	0
Butter	6	3	3
Canned meats	2	1	1
Canned vegetables	4	1	3
Cheese	1	1	0
Coffee and coffee compounds	3	2	1
Colors	3	2	1
Flavoring preparations	12	6	6
Hamburg steak	16	14	2
Honey	1	1	0
Ice cream	4	1	3
Jellies, jams, etc	20	6	14
Lard	12	3	9
Milk	13	6	7
Miscellaneous	4	3	1
Molasses	1	1	0
Mushrooms	2	0	2
Oleomargarine	15	1	14
Olives	1	0	1
Oysters	1	0	1
Preservatives	1	1	0
Raisins	1	0	1
Rice	1	0	1
Salmon	1	1	1
Sardines	2	0	4
Sausage	22	9	13
Soft drinks	5	5	0
Syrups	4	0	4
Tomato pulp	13	9	4
Vinegar	4	4	0
Totals	179	82	97

ANALYSES OF SAMPLES.

BUTTER.

No. 27791, A-6. Sample of "butter" procured from O. J. Lang, 10 Pasadina Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27809, A-8. Sample of oleomargarine procured from Wm. Lewis, 596 Dix Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27831, V-31. Sample of renovated butter procured from John Pluff, Detroit. Sample is oleomargarine, not stamped.

CANNED MEATS.

No. 27893, I-113. Sample of Rex brand roast beef packed by the Cudahy Packing Company, and procured from Harper & Priest, Montgomery. Misbranded in that the packer's address is not stated.

CANNED VEGETABLES.

No. 27807, V-29. Sample of canned peas packed in Belgium and procured from W. H. Kolbe, 173 Jos. Campau Ave., Detroit. Peas are colored with copper sulphate a substance not permissible in food products.

No. 28050, G-933. Sample of canned peas (Le Soleil Malines Brand) procured from F. P. French, Houghton. Peas are greened with copper sulphate, a substance not permissible in food products.

No. 28094, I-139. Sample of "Emerald Early June Peas" manufactured by the Fame Canning Co., Tipton, Ind., handled by R. A. Bartley, Toledo, Ohio, and procured from Charles E. Maitin, Monroe. Misbranded in that the words "Early June Peas" deceive or mislead the purchaser.

COFFEE COMPOUND.

No. 27668, F-78. Sample of Uneeda Coffee manufactured by the B. D. Roseman Coffee Co., Cleveland, Ohio, and procured from Peter Elengoff, Detroit. A mixture of coffee, chicory and wheat. Not properly labeled as a coffee compound.

COLORS.

No. 28077, I-134. Sample of Liquid Egg Color procured from D. E. Boag, Hillsdale. Sample is a coal tar color and its use in baked goods makes them appear better or of greater value than they really are.

FLAVORING PREPARATIONS.

No. 27633, I-83. Sample of Vanilla manufactured by L. J. Baldwin & Son, Fort Wayne, Ind., and procured from F. A. Lehr, Adrian. An imitation vanilla extract not properly labeled and colored.

No. 27673, I-89. Sample of imitation vanilla extract manufactured by the Moore Co., Temperance. Carton labeled incorrectly.

No. 27733, I-95. Sample of "Vanilla Substitute" manufactured by C. H. Stuart & Co., Newark, N. Y., handled by Harvey Rhodebaugh, Quincy,

and procured from the Amsden Grocery Co., Quincy. Imitation vanilla misbranded.

No. 27796, U-26. Sample of Strawberry Flavor manufactured by Greenberg & Newman, 215 Napoleon St., Detroit. An imitation strawberry flavor not properly labeled.

No. 27855, I-110. Sample of Coumarin & Vanilla manufactured by the Acme Extract Co., Jackson, and procured from A. R. Klose & Son, Sherwood. Not properly labeled as an imitation vanilla.

No. 27862, U-28. Sample of Violet Flavor manufactured by S. F. Saloom Co., 21 Washington St., New York, and procured from Michael Bros., Detroit. Sugar syrup artificially colored. Misbranded.

HAMBURG STEAK.

No. 27868, G-924. Sample of Hamburg Steak manufactured and sold by the Crystal Falls Cooperative Society, Crystal Falls. Sample contains sulphurous acid or salts thereof, not permissible in food products.

No. 27903, F-94. Sample of Hamburg Steak manufactured by the Marx Market Co., Detroit, and procured from Tollis Bros., Detroit. Contains added sulphurous acid or salts thereof, not permissible in food products.

ICE CREAM.

No. 27814, S-21. Sample of ice cream manufactured by Geo. Chase, Hillsdale, and procured from Frank Shiley, Hillsdale. Butter fat 8.5%. Below standard.

No. 27815, S-22. Sample of ice cream procured from Geo. Chase, Hillsdale. Butter fat 9.0%. Below standard.

No. 27967, Y-141. Sample of ice cream manufactured by the Piper Ice Cream Co., Kalamazoo. Butter fat 8.2%. Below standard.

JELLIES, JAMS, ETC.

No. 27754, I-98. Sample of Pineapple Preserve manufactured by the Hay Manufacturing Co., Detroit, handled by the Jackson Grocery Co. as jobbers and procured from B. M. Mills, Jackson. Misbranded. Not pure pineapple preserves.

No. 27864, U-30. Sample of Raspberry Jam manufactured by the E. B. Gallagher Co., Detroit. Imitation fruit jelly artificially colored. Not salable.

No. 27865, U-31. Sample of Bakers Jelly No. 1 manufactured by E. B. Gallagher Co., Detroit, Imitation fruit jelly, artificially colored. Not salable.

No. 27866, U-32. Sample of Bakers Jelly No. 2 manufactured by E. B. Gallagher Co., Detroit. Imitation fruit jelly artificially colored. Not salable.

No. 27881, U-34. Sample of Raspberry Preserve Compound manufactured by the Logan-Johnson Co., Boston, Mass., and procured from Alex B. Campbell, Detroit. Imitation preserves artificially colored. Not salable.

No. 27882, U-35. Sample of Apple Jelly manufactured by Williams Bros., Detroit, and procured from Alex B. Campbell, Detroit. Misbranded.

No. 27883, U-36. Sample of National brand Apple Jelly manufactured by the American Preserve Co., Philadelphia, and procured from Alex B. Campbell, Detroit. Product is an imitation jelly artificially colored. Not salable.

No. 27912, I-120. Sample of Bakers Jelly No. 1 manufactured by E. B. Gallagher & Co., Detroit, and procured from Trank Bros., Jackson. Product is imitation jelly artificially colored. Not salable.

No. 27969, U-42. Sample of Royal Jelly manufactured by Ad. Seidel & Sons, Chicago, and procured from Mrs. T. Earle, Adrian. An imitation jelly artificially colored. Not salable.

No. 27989, I-122. Sample of Golden Glory Corn Syrup & Apple Jelly handled by the Bruce & West Manufacturing Co., Cleveland, and procured from J. H. Eber & Co., Monroe. An imitation jelly artificially colored. Not salable.

No. 28078, I-135. Sample of Bakers Delight Apple & Raspberry Jelly manufactured by Chapman & Smith Co., Chicago, and procured from D. E. Boag, Hillsdale. Product is an imitation jelly not properly labeled.

No. 28116, I-147. Sample of Bakers Jelly No. 1 manufactured by E. B. Gallagher & Co., Detroit, and procured from Sam Hensel, Ann Arbor. Product is an imitation jelly not properly labeled.

No. 28119, V-33. Sample of Raspberry & Apple Preserves manufactured by Oelerich & Berry, Chicago, and procured from F. S. Davis & Co., Detroit. Not properly labeled as an imitation jelly. Manufacturer's name and address not stated.

No. 28121, V-35. Sample of imitation Apple and Grape Jelly manufactured by Oelerich & Berry, Chicago, and procured from F. S. Davis & Co., Detroit. Misbranded.

LARD.

No. 27768, U-18. Sample of lard procured from Konstan Seropulos, 420 Michigan Ave., Detroit. Product is lard compound not stamped.

No. 27770, F-85. Sample of lard procured from Jacob Dunn & Co., 1015 Grand River Ave., Detroit. Product is lard compound not stamped.

No. 27789, U-23. Sample of lard procured from the Detroit Provision Co., Detroit. Product is lard compound not stamped.

No. 27873. Unofficial sample of lard. Product is lard compound not stamped.

No. 27923, F-97. Sample of lard procured from Dirk Mulder, Muskegon. Product is lard compound not stamped.

No. 27961, F-103. Sample of lard manufactured by J. S. Anderson and procured from E. Heathuis, Muskegon. Sample is lard compound.

No. 28021, E-63. Sample of lard compound procured from Godfrey Gundrum, LeRoy. Package not stamped or marked.

No. 28023, E-65. Sample of lard compound procured from D. B. Ketchum, LeRoy. Package not stamped or marked.

No. 28024, E-66. Sample of lard compound procured from James Campbell, LeRoy. Package not stamped or marked.

MILK.

No. 27860, S-24. Sample of milk procured from E. F. Couper, Azalia. Below standard in specific gravity, total solids and fat.

No. 27911, S-28. Sample of milk procured from Robert Morris, Montrose R. F. D. Below standard in butter fat, total solids. Above standard in specific gravity. A part of the cream has been removed. Contains an excessive amount of sediment.

No. 27962, S-29. Sample of milk procured from J. P. Ackerman, Monroe

R. F. D. Below standard in specific gravity and total solids. Contains an excessive amount of visible dirt and about 47% added water.

No. 27963, S-30. Sample of milk procured from J. H. Stitz & F. A. Nims, Monroe. Below standard in specific gravity and total solids. Contains about 17% added water.

No. 27997, N-30. Sample of milk produced by Richard Raquepau, Birch Run, R. F. D. Below standard in specific gravity, butter fat and total solids. Contains about 25% added water and an excessive amount of visible dirt.

No. 27998, N-31. Sample of milk produced by Mrs. Mary Hogland, Birch Run, R. F. D. Below standard in specific gravity, butter fat and total solids. Contains about 43% added water

No. 28114, P-815. Sample of milk procured from E. L. Cole, Battle Creek, R. F. D. Sample is below standard in specific gravity and total solids and contains about 23% added water.

MISCELLANEOUS.

No. 27910, I-119. Sample of Spanish Red Peppers handled by Lee & Cady, Detroit. Misbranded in that the manufacturer's name and address do not appear on the label.

MUSHROOMS.

No. 27750, U-15. Sample of mushrooms sold by Francis Leggett & Co., New York, and procured from M. & J. Frank, Detroit. Bleached with sulphur dioxide. Misbranded in that the packer's name and address do not appear on the label.

No. 27751, U-16. Sample of mushrooms sold by Francis Leggett & Co., New York, and procured from M. & J. Frank, Detroit. Bleached with sulphur dioxide. Misbranded in that the packer's name and address do not appear on the label.

OLEOMARGARINE.

No. 27728, U-14. Sample of oleomargarine procured from Robert Hirt, Jr., 32 Market St., Detroit. Product is oleomargarine. No sign displayed.

No. 27785, A-5. Sample of oleomargarine procured from Parker-Webb & Co., Detroit. Misbranded.

No. 27797, V-26. Sample of oleomargarine procured from the Economy Market Co., Detroit. Product is oleomargarine. No sign displayed.

No. 27834, A-11. Sample of oleomargarine from Fred (or Edward) Raulo, 1750 Michigan Ave., Detroit. Product is oleomargarine artificially colored.

No. 27835, A-12. Sample of oleomargarine procured from Mrs. G. J. Pixley, 365 Dix Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27850, A-13. Sample of oleomargarine procured from K. Matteson, 1799 W. Fort St., Detroit. Sample is oleomargarine artificially colored.

No. 27899, A-14. Sample of oleomargarine procured from Webster & Wolcott, 495 Grand River Ave., Detroit. Sample is pure butter. Package stamped oleomargarine. Misbranded.

No. 27905, F-965. Sample of oleomargarine manufactured by the White Front Butter & Egg Co., Detroit, and procured from A. Wayne, Detroit. Sample is oleomargarine artificially colored.

No. 27945, U-41. Sample of oleomargarine procured from N. D. Solon & Co., Pontiac. Sample is oleomargarine. No sign posted.

No. 27959, F-101. Sample of oleomargarine procured from A. Longeland, Muskegon. Sample is oleomargarine. No sign displayed.

No. 28003, U-43. Sample of oleomargarine procured from E. H. Westbrook, 2525 E. Jefferson Ave. Detroit. Sample is oleomargarine. No sign posted.

No. 28063, A-15. Sample of oleomargarine procured from Webster & Wolcott, 495 Grand River Ave., Detroit. Sample is oleomargarine artificially colored.

No. 28064, A-16. Sample of oleomargarine procured from Redford & Son, 447 Grand River Ave., Detroit. Sample is oleomargarine artificially colored.

No. 28065, V-32. Sample of oleomargarine procured from Rodger & Miles, 43 Clifford St., Detroit. Sample is oleomargarine artificially colored.

OLIVES.

No. 28001, E-58. Sample of olives handled by Symons Bros., Saginaw, and procured from A. W. Thorpe, Clare. Manufacturer's name and address not on label.

OYSTERS.

No. 28089, P-814. Sample of oysters procured from Herman Scholz, Battle Creek. Sample contains an excessive amount of unabsorbed water.

RAISINS.

No. 27894, I-114. Sample of Glen Rosa Brand Seedless raisins manufactured by the North Ontario Packing Co., California, handled by Moellering Bros. and Millard, Fort Wayne, Ind., and procured from M. M. Berry, Montgomery. Misbranded in that the complete address of the manufacturer is not stated on the label.

RICE.

No. 27699, U-13. Sample of rice procured from Yee Chong Lung Co., 158 Randolph St., Detroit. Sample is coated with glucose and talc.

SALMON.

No. 27890, I-111. Sample of Hunters Brand Salmon packed by the Alaska Packers Association, Alaska, handled by the Hillsdale Grocery Co., Hillsdale, and procured from Lyon & Chesley, Pittsford. Misbranded in that the complete address of the packer is not stated on the label.

SARDINES.

No. 27891, I-112. Sample of Pot Luck American Sardines packed by the Seacoast Canning Co., handled by Berdan & Co., Toledo, Ohio, and procured from F. S. Sackett, Litchfield. Misbranded in that the complete address of the manufacturer is not stated on the label.

No. 28044, I-124. Sample of Falcon Brand Sardines handled by the Falcon Packing Co., New York, and procured from Beck & Goetz, Monroe. Misbranded in that the packer's name and address is not stated on the label.

No. 28100, I-140. Sample of Maxim[®] Brand Sardines handled by Vhay Fisheries Co., Detroit, and procured from Harry L. Sturn, Monroe. Misbranded in that the packer's name and address is not stated on the label.

No. 28101, I-141. Sample of Little Gem Sardines handled by the Vhay Fisheries Co., Detroit, and procured from H. L. Sturn, Monroe. Misbranded in that the packer's name and address is not stated on the label.

SAUSAGE.

No. 27788, U-22. Sample of sausage manufactured by the Detroit Provision Co., Detroit. Cereal present. Not stamped to indicate same.

No. 27799, V-28. Sample of ring sausage handled by Schiller & Kaufman, Detroit, and procured from the Economy Market Co., Detroit. Cereal present. Package not stamped to indicate same.

No. 27843, F-93. Sample of Frankfurt Sausage procured from Roy A. Cadwell, Grandville. Cereal present. No statement on package to indicate same.

No. 27896, U-39. Sample of sausage manufactured by John A. Peters, 620 Dix Ave., Detroit. Sample contains an excessive amount of cereal. Package not stamped.

No. 27908, G-928. Sample of bologna sausage manufactured by Dan Holland, Hancock, and procured from N. Lepisto & Co., Hancock. Cereal present. Package not stamped.

No. 27909, G-929. Sample of Frankfurt Sausage manufactured by Henry Martinmaki, Hancock, and procured from I. Lehto & Co., Hancock. Cereal present. Package not stamped to indicate same.

No. 27926, F-99. Sample of Frankfurt Sausage manufactured by Chas. Shoenberg, Muskegon. Cereal present. Package not stamped to indicate same.

No. 28020, E-62. Sample of bologna sausage manufactured by Scheibel Bros., Cadillac. Cereal present. Package not stamped to indicate same.

No. 28045, F-104. Sample of sausage procured from A. J. Wibolda, Muskegon. Sample contains an excessive amount of cereal. Package not stamped.

No. 28092, I-137. Sample of Bologna Sausage manufactured and sold by Heck's Sons, Monroe. Sample contains an excessive amount of cereal. Package not stamped.

No. 28093, I-138. Sample of Bologna Sausage manufactured and sold by Schrauder & Co., Monroe. Sample contains an excessive amount of cereal. Package not stamped.

No. 28111, F-106. Sample of sausage manufactured by Otto Lunow, Muskegon, and procured from F. J. Carr, Muskegon. Sample contains an excessive amount of cereal. Package not stamped.

SYRUPS.

No. 27851, U-27. Sample of Strawberry Syrup manufactured by Feigenson Bros., Detroit. An imitation strawberry syrup artificially colored. Not properly labeled.

No. 27949, G-930. Sample of Crystal White Karo Syrup handled by Steele, Wedeles Co., Chicago, Ill. and procured from Quayle & Goodney, Stambaugh. Misbranded.

No. 27950, G-931. Sample of Karo Syrup handled by Steel, Wedeles Co.,

Chicago, Ill., and procured from Quayle & Goodney, Stambaugh. Misbranded.

No. 28115, I-146. Sample of Northern Ohio Brand Syrup handled by the Feilbach Company, Toledo, Ohio, and procured from J. F. Wagner & Co., Ann Arbor. Manufacturers address not stated on the label. Misbranded.

TOMATO PULP.

No. 28025, P-795. Sample of tomato pulp procured from the Monroe Canning & Packing Co., Monroe. Unwholesome.

No. 28026, P-796. Sample of tomato pulp procured from the Monroe Canning & Packing Co., Monroe. Unwholesome.

No. 28028, P-798. Sample of tomato pulp procured from the Monroe Canning & Packing Co., Monroe. Unwholesome.

No. 28030, P-800. Sample of tomato pulp procured from the Monroe Canning & Packing Co., Monroe. Unwholesome.

DRUG INSPECTIONS.

The following places were visited by the drug inspectors of the Department during the months of September and October, 1913:

Akron, Albion, Allegan, Almont, Augusta, Bad Axe, Bellevue, Benton Harbor, Breedsville, Bronson, Burlington, Burr Oak, Cadillac, Cheboygan, Chelsea, Coldwater, Coloma, Colon, Concord, Constantine, Davison, Detroit, Eaton Rapids, Eau Claire, Elkton, Fairgrove, Fruitport, Galesburg, Galien, Gaylord, Grand Junction, Grand Ledge, Grand Rapids, Grass Lake, Grayling, Hart, Hartford, Hastings, Hillsdale, Holland, Homer, Jackson, Kalamazoo, Lansing, Mancelona, Marcellus, Mendon, Montague, Muskegon, Muskegon Heights, Nashville, Northville, Onaway, Otter Lake, Parma, Pentwater, Port Austin, Schoolcraft, Sebawaing, Shelby, St. Joseph, Stevensville, Sturgis, Tekonsha, Three Oaks, Uby, Union City, Unionville, Vermontville, Watervliet, Wayland, Whitehall, White Pigeon, Wolverine, Ypsilanti.

November 1, 1913..

Hon. James W. Helme,
Adrian, Michigan.

Dear Sir:—

I herewith beg to submit my report for September and October.

The number of samples analyzed during these two months as well as the number found adulterated or misbranded and the kinds of products examined will be found in the accompanying summary.

Yours truly,

A. R. TODD,
Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Acetanilide tablets.....	1	1	0
Aspirin tablets.....	3	3	0
Beef, iron and wine.....	1	1	0
Bismuth subnitrate.....	2	2	0
Camphor liniment.....	6	5	1
Codeine sulphate.....	1	1	0
Elixir iron, quinine and strychnine.....	1	1	0
Essence pepsin.....	7	7	0
Extract vanilla.....	1	0	1
Fowlers solution.....	2	2	0
Seidlitz powders.....	11	7	4
Spirits camphor.....	3	1	2
Spirits nitre.....	3	2	1
Soap liniment.....	2	0	2
Sugar of milk.....	10	10	0
Tr. iodine.....	6	1	5
Tr. opium.....	6	6	0
T. T. morphine sulphate.....	1	1	0
Zinc oxide ointment.....	6	4	2
Totals.....	73	55	18

ANALYSES OF SAMPLES.

CAMPHOR LINIMENT.

No. 27935, Q-157. Sample of camphor liniment manufactured and sold by G. S. Dewey, Jackson. Not in conformity with U. S. P. requirements. Low in camphor.

EXTRACT VANILLA.

No. 27638, Q-142. Sample of extract vanilla manufactured by F. A. Thompson & Co., Detroit, handled by the Wolverine Drug Co., Detroit, as jobbers and procured from E. E. Calkins, Ann Arbor. Sample is dilute vanilla extract.

SEIDLITZ POWDERS.

No. 27763, Q-150. Sample of seidlitz powders manufactured by the Milwaukee Drug Co., Milwaukee, and procured from Vennema's Pharmacy, Menominee. Not a U. S. P. preparation. Blue papers do not contain sufficient of the mixture of sodium bicarbonate and potassium and sodium tartrate.

No. 27819, Z-108. Sample of seidlitz powders manufactured and sold by Conway & Hall, Sault Ste. Marie. Not U. S. P. Blue papers do not contain sufficient of the mixture of sodium bicarbonate and potassium & sodium tartrate.

No. 27820, Z-109. Sample of seidlitz powders manufactured and sold

by Rudell Drug Company, Sault Ste. Marie. Not U. S. P. Blue papers do not contain sufficient of the mixture of sodium bicarbonate, potassium and sodium tartrate.

No. 27993, Z-124. Sample of seidlitz powders manufactured by Lambert & Lowman, Detroit, and procured from R. Eckerman, Muskegon. Not U. S. P. White papers contain an excess of tartaric acid.

SPIRITS CAMPHOR.

No. 27936, Q-158. Sample of spirits of camphor manufactured and sold by F. M. Colwell, Jackson. Not in conformity with U. S. P. requirements in that it is low in camphor.

No. 28096, Z-143. Sample of spirits of camphor manufactured and sold by Peter Scherer & Sons, Benton Harbor. Not in conformity with U. S. P. requirements in that it is low in camphor.

SPIRITS NITRE.

No. 27930, Q-152. Sample of spirits nitre manufactured by Puhl-Webb Co., Chicago, Ill., and procured from T. L. Thiel, Pigeon. Not U. S. P. Low in nitrate.

SOAP LINIMENT.

No. 27917, Z-114. Sample of soap liniment manufactured and sold by the Wagner Drug Company, Bangor. Not in conformity with U. S. P. requirements in that it is low in camphor.

No. 28071, Z-134. Sample of soap liniment manufactured and sold by the Red Cross Drug Co., Benton Harbor. Does not conform to U. S. P. requirements. Contains an excessive amount of camphor and is deficient in soap.

TINCTURE IODINE.

No. 27934, Q-156. Sample of tincture iodine manufactured and sold by G. S. Dewey, Jackson. Not U. S. P. Low in iodine.

No. 28080, Z-140. Sample of tincture iodine manufactured and sold by E. L. Moore, Albion. Not U. S. P. Low in iodine and potassium iodide.

No. 28095, Z-142. Sample of tincture iodine manufactured and sold by Geo. S. Barnard, Benton Harbor. Not U. S. P. Low in iodine.

No. 28099, Z-146. Sample of tincture iodine manufactured and sold by Fred A. Potter, St. Joseph. Not U. S. P. Low in iodine and potassium iodide.

No. 28148, Q-185. Sample of tincture iodine manufactured and sold by Bert H. Fanning, Detroit. Not U. S. P. Low in iodine and potassium iodide.

ZINC OXIDE OINTMENT.

No. 28070, Z-133. Sample of zinc oxide ointment manufactured and sold by the H. L. Bird Drug Co., Benton Harbor. Not U. S. P. Low in zinc oxide.

No. 28082, Q-171. Sample of zinc oxide ointment manufactured by the Aetna Chemical Company, Detroit, and procured from the Hendrick Pharmacy, 1229 Hastings St., Detroit. Not U. S. P. Low in zinc oxide.

RAT POISON SCATTERED ON LANSING PORCHES.

One of the modern means of introducing some new brand of coffee, breakfast food or patent medicine is to have a sample of the article left on numerous porches throughout a city or town. As a means of calling attention to a new product it is very effective, but as a means of advertising a rat poison this method is a new one on us. However, that is what happened in Lansing a few days ago and probably has or will happen in many other Michigan cities in the very near future.

To have a poison haphazardly thrown around on the porches of city residences, to our way of thinking, is a most dangerous proceeding and it is doubly so when the contents of that package in any way resembles a confection or to the child's eye something good to eat.

One of the packages that was distributed in Lansing last Saturday was brought to this Department. It is called "Rat Annihilator." It consists of a slab of material about one and one-half inches wide and three inches long, colored red and wrapped in a piece of oiled paper. On first sight one would call it a piece of candy but on closer examination one finds that it has the odor of matches. An examination in the laboratory of this Department shows it to consist chiefly of starch paste impregnated with red phosphorous. This is contained in a carton which states on one end that the substance is a poison. On the face of the carton is a picture of a little girl going thru the process of annihilating a rat. You are informed that it is "harmless to handle but not take internally" and that it is "safe, sure and sanitary."

The label is legal and anyone who could read the English language would know what he was getting and what it was to be used for, but when it is thrown around a city it is different. Little children who are quite often permitted to play on the front porch at this time of the year, are very liable to pick it up and open it. The slab of material resembles candy so much that the first impulse of a child would be to take a bite of it. In fact that was the occasion of the sample being brought to this Department. A package was left on the front porch of a Lansing residence, a two year old child was playing on the porch and found the rat poison. When the mother noticed the child, it had the slab out of the package and was about to bite into it.

As stated above it seems to us that this method of advertising a rat poison is a very dangerous way to go about it. We have no objection to the sale of rat poison nor its use, but we do not want to see it used as an annihilator of children instead of rats. Many cities have ordinances prohibiting the promiscuous scattering of drugs or poisons in this manner. When such ordinances are in force they should take warning and prevent the recurrence of anything of this sort.

SOME MORE BEAUTY HINTS.

Some time ago this department issued a bulletin dealing with various beauty remedies which could be prepared at home and which were running in various Michigan newspapers by Mrs. Mae Martyn. Mrs. Mae Martyn purported to answer various mythical correspondents in regard to their alleged needs for improving their style of beauty both physically and mentally. Since the issuance of that bulletin Mrs. Mae Martyn seems to have dropped off the map so far as Michigan newspapers are concerned and the field is now being occupied by the "Home Beauty Parlor" of Betty Dean. We are not privileged to have the acquaintance of Betty but from looking over her effusions of home made beauties, they sound just like the same ones that Mrs. Mae Martyn was putting over on us. There is Spurmax, Canthrox, and Getrox and all the other various lines. Perhaps Mrs. Martyn after using her superlative toilet articles was able to marry some sardine and thus change her name. At any event in the language of the Bible "While the hands are the hands of Esau, the voice is the voice of Jacob."

A correspondent who signs herself "Mayme" complains to Betty that she is rapidly getting as big as a balloon and the same shape, and she wants something to bring her down to her normal weight. Betty has the something and advises her to put 4 oz. of Parnotis in one and one-half pints of water and take a tablespoonful before meals. She assures her that this will bring her avoirdupois down to the exact weight she wants it without any dieting or undue exercises. Parnotis, of course has to be obtained at the drug store. It costs you 50c under that name but if you will get 3 oz. of Baking Soda and 1 oz. of Sodium Sulphate and mix and dissolve, you will have Parnotis at the cost of about 5c which will cost you 50c if obtained at the drug store.

Another correspondent is troubled with failing eyesight. She complains that her eyes are dull and dim and she wants something to brighten them up. Betty has the something that will make the eyes bright and shining and relieve all soreness of the same. Absolutely "safe and inexpensive." All you have to do is to get an ounce of "Crystos" and dissolve it in a pint of water and apply two or three drops daily. The result is supposed to make your eyes as bright as Henry Waterson's star-eyed Goddess of Reform. Crystos is to be obtained at the drug store for 50c. It is composed of Boric Acid 60%, Common Salt, 20%, and Borax, 20%. For less than 10c you can get a sufficient amount to make you "Bright Eyes" for 40 years, providing the stuff works. We trust Betty will not change her name again after this bulletin appears because it keeps us guessing to recognize her under her various nom de plumes.

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts pounds.	Make butter, pounds.	Sanitary surround- ings.
Barry Co., Sept:					
Crystal Creamery Co.....	Hastings.....	J. L. Shirk.....		300,000	Good
Nashville Creamery Co.....	Nashville.....	A. C. Siebert.....		120,000	Good
Eaton Co., Sept:					
Vermontville Creamery.....	Vermontville.....	H. Gordon & Son.....		56,214	Poor
Genesee Co., Sept:					
Shaw & Cooney Creamery.....	Davison.....	Frank Shaw.....		91,640	Fair
Standard Butter Co.....	Flushing.....	H. A. Ammerman.....		288,156	Good
Ingham Co., Sept:					
Stockbridge Creamery.....	Stockbridge.....	H. J. Kiepert.....		98,000	Good
Kalamasoo Co., Sept:					
Kalamasoo Creamery Co.....	Kalamasoo.....	H. W. Weeks.....	2,137,283		Good
Michigan Butter Co.....	Kalamasoo.....	H. W. Weeks.....		147,409	Good
Livingston Co., Sept:					
Durand Creamery Cream Station.....	Hamburg.....	Durand Creamery.....			Fair
Oakland Co., Sept:					
Wixom Milk Depot.....	Wixom.....	Detroit Creamery Co..	1,850,000		Good
Shiawassee Co., Sept:					
Lennon Creamery Co.....	Lennon.....	H. T. Reynolds.....			Good
Wayne Co., Sept:					
Wayne Creamery Co.....	Wayne.....	J. B. Murphy.....			Fair
Alcona Co., October:					
Alcona Co. Creamery.....	Alcona.....	Mrs. H. S. Johnston.....			Good
Lincoln Creamery.....	Lincoln.....	Mrs. H. S. Johnston & R. Ritchie.....			Fine
Spencer & Howe Cream Station.....	Mikado.....	W. W. Woodward.....			Good
Barry Co., October:					
Hickory Corners Creamery.....	Hickory Corners.....	Jacob Veenstra.....		75,960	Fair
Shultz Cooperative Creamery.....	Shultz.....	E. Hall, Mgr.....		185,927	Good
Bay Co., October:					
Bay Shore Creamery.....	Pineconning.....	A. T. Koscinaki.....			Good
Towards Wayne Co. Creamery.....	Pineconning.....	S. Maloney, Mgr.....			Good
Vasold Bros. Cry.....	Pineconning.....	Vasold Bros.....		80,000	Good
Berrien Co., October:					
Niles Creamery Co.....	Niles.....	C. Smith, Mgr.....		112,000	Good.
Cass Co., October:					
Cassopolis Creamery Co.....	Cassopolis.....	Henry Edinger.....		180,000	Good
Marcellus Creamery Co.....	Marcellus.....	J. R. Munger.....		120,000	Good

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pump.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean	Good			Clean	Clean		Good	Clean	Good	Good		92
Clean					Clean		Good	Clean	Good	Good		91
Clean	Fair				Clean		Bad	Clean	Good	Good		90
Clean	Fair				Clean		Fair	Clean	Good	Good		92
Good	Good				Good		Good		Good	Good		92
Clean	Clean			Clean	Clean		Fair	Clean	Good	Good		93
Clean	Clean	Clean	Clean	Clean	Clean		Good		Good	Good	Good	91
Clean	Good				Clean		Good	Clean	Good	Good		
Clean												
	Clean			Clean	Clean				Good		Good	
Good	Good				Good		Good	Fine	Good	Good		92
	Clean	Clean	Clean		Clean	Clean	Fair	Clean	Good	Good	Fair	
Clean					Good		Good	Good	Good	Good		91
Clean	Good				Good		Good	Fine	Fine	Good		92
Good												
Clean	Good				Clean		Fair	Clean	Good	Good		91
Clean	Good				Clean		Good	Clean	Good	Good		91
Good												
Clean	Good			Good	Good		Good	Good	Good	Good		92
Good												
Clean	Good				Good		Good	Clean	Good	Good		93
Clean	Good				Clean		Good	Clean	Good	Good		94
Clean	Good				Clean		Good	Clean	Good	Good		92

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Eaton Co., October:					
Boylands Creamery Cream Station	Grand Ledge	J. Boyland			Fair
Clover Leaf Creamery	Charlotte	W. T. Leonard		161,144	Good
Eaton Rapids Creamery	Eaton Rapids	A. M. Smith Co.			Good
Inland City Cream Station	Eaton Rapids	Inland City Creamery			Fair
Mulliken Creamery	Mulliken	Mulliken Creamery Co.		64,518	Good
Mulliken Cream Station	Grand Ledge	Mulliken Creamery Co.			Fair
Spencer & Howe Cream Station	Mulliken	Spencer & Howe			Good
Spencer & Howe Cream Station	Grand Ledge	Spencer & Howe			Good
Towars Cream Station	Grand Ledge	Towars Wayne Co. Cr.			Good
Towars Cream Station	Eaton Rapids	Towars Wayne Co. Cr.			Fair
Iosco Co., October:					
Tawas Butter Co.	Tawas City	C. Fahselt		75,000	Good
Kalamazoo Co., October:					
Bishops Creamery Co.	Vicksburg	J. Bishop		64,312	Fair
Island Creamery	Schoolcraft	McCready & Erwine		59,000	Good
Macomb Co., October:					
Chesterfield Creamery Co.	Chesterfield	C. F. Jordan	10,615,214		Good
Gata Creamery Co.	Mt. Clemens	John Gata, Mgr.	1,414,000		Good
New Baltimore Creamery	New Baltimore	New Bal. Cry. Co.		85,600	Fair
Meosota Co., October:					
L. Barber Co. Cream Station	Big Rapids	Dickson & Turk			Fair
L. Barber Co. Cream Station	Woodville	Geo. Conkwright			Good
Blanchard Creamery	Blanchard	H. J. Sess		147,000	Good
Boyland Creamery Co., Cream Sta.	Stanwood	J. E. Gogo & Co.			Fair
Model Cooperative Cry., Cream Sta.	Stanwood	Mitchell & Gogo			Good
Model Creamery Association	Big Rapids	W. J. Massey			Good
Model Cooperative Cry., Cream Sta.	Woodville	Bauman Bros., Mgrs.			Good
Swift & Co.	Woodville	J. C. Russell, Mgr.			Good
Montcalm Co., October:					
Lakeview Creamery	Lakeview	H. A. Black		130,000	Good
McBrides Creamery	McBrides	C. W. Hardee		125,000	Good
Swift & Co. Cream Station	Lakeview	Frank Stebbins			Good
Montmorency Co., October:					
Hillman Creamery Co.	Hillman	L. W. Ostrande			Good
Newaygo Co., October:					
Blue Line Creamery	White Cloud	B. C. Martin		80,000	Good
Fremont Creamery Co.	Fremont	H. Rosema	2,510,442	382,235	Good
Wooster Creamery	Wooster	E. J. Peterson			Good
St. Clair Co., October:					
St. Clair Cry. Co.	St. Clair	C. H. Otter	3,314,924		Good
St. Joseph Co., October:					
Constantine Creamery	Constantine	Constantine Cry. Co.		78,000	Good
White Pigeon Dairy & Produce Co's C'y	White Pigeon	L. W. Felker		190,000	Fair
Washtenaw Co., October:					
Ann Arbor Creamery	Ann Arbor	Eaton & Allen			Good
Wurster Bros. Milk Depot	Ann Arbor	Wurster Bros.	745,000		Good
Ypsilanti Dairy Assn.	Ypsilanti	S. A. Wiard	8,515,441	403,448	Good

29

[illegible]

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts. pounds.	Make cheese. pounds.	Style.
Genesee Co., September:					
Richards Cheese Factory.....	Burton.....	D. W. Richards.....	1,315,000	132,514	Mish. Chedd.
Livingston Co., September:					
Linden Cheese Factory.....	Anderson.....	S. Boyce.....	1,216,412	123,305	Mish. Soft.
Oakland Co., September:					
New Hudson Cheese Factory.....	New Hudson.....	Towards Wayne Co. Cr. Co.....			Mish. Soft.
Willow Brook Cheese Factory.....	Walled Lake.....	C. T. Freeman.....	465,000	46,564	Mish. Chedd.
Saginaw Co., September:					
Birch Run Cheese Co.....	Birch Run.....	O. A. Thompson.....	1,500,000	150,000	Mish. Soft.
T. A. Cook.....	Brant.....	T. A. Cook.....	1,000,000	100,000	Mish. Soft.
Standard Cheese Co.....	Birch Run.....	Kent & Thompson.....	100,200	120,000	Mish. Soft.
Montmorency Co., October:					
A. K. Brandt.....	Royston.....	A. K. Brandt.....			Cheddar.

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
Chas. B. Sim.....	Good....	2 clean...	1 gang...	Good....	Fair....	Marshall.	8 H. P.	Good....	.....
Robt. Edward.....	Fair....	2 clean...	1 gang...	.....	Fair....	.....	12 H. P.	Fair....	.....
A. B. Robertson....	Good....	2 clean...	1 gang...	.....	Clean....	Marshall.	20 H. P.	Fine....	.....
A. E. Lounsbury....	Good....	1 clean...	1 gang...	Good....	Fair....	.....	15 H. P.	Good....	.....
O. A. Thompson....	Fair....	2 good...	2 gang...	.....	Fair....	Fair....	12 H. P.	Good....	.....
T. A. Cook.....	Good....	2 good...	Gang....	.....	Good....	.....	.....	Fair....	.....
Earl Davis.....	Good....	2 good...	2 gang...	.....	Fair....	.....	10 H. P.	Fair....	.....
A. K. Brandt.....	Good....	1 good...	Gang....	.....	.....	.....	.....	Good....	Artific'l

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary conditions.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Crystal Falls, September:											
W. B. Poyser	100	100	95	100	100	495	Excellent	3.8	31.5	12.43	
Munising, September:											
Mitchell St. Martin	89	78	78	78	65	388	Poor				
Petoskey, September:											
Robert C. Ames	89	60	75	75	87	386	Poor				
L. D. Buell	78	92	82	78	96	426	Medium				
Spencer Crouch	79	78	72	78	87	394	Poor				
A. L. Fennimore	85	75	75	78	91	404	Medium				
John Haas	79	86	81	78	87	411	Medium				
E. G. Ludlow	84	86	74	78	98	420	Medium				
Allen McDougall	92	92	82	78	100	444	Medium				
W. L. Preston	96	95	95	84	100	470	Good				
Edward Shanley	91	94	84	79	100	448	Medium				
W. H. Shanley	89	85	85	78	100	437	Medium				
William Smith	79	81	81	78	87	406	Medium				
John Soblesky	85	86	85	78	100	434	Medium				
Wetmore, September:											
Dan Becker	89	84	78	78	81	410	Medium				
James J. Connors	78	83	82	77	93	413	Medium				
Wm. Robinson	83	77	79	78	80	397	Poor				
Bangor, October:											
Fred Funk	83	73	92	75	90	413	Medium				
Frank Kennedy	69	65	78	70	90	392	Poor				
Battle Creek, October:											
Elmer L. Cole	71	55	78	75	90	369	Poor				
Menominee, October:											
C. I. Cook	90	75	75	90	100	460	Good	4.2	33	13.29	9.09
Wm. Cort	85	80	75	90	100	430	Medium	4.4	31	13.03	8.63
Robt. Haase	100	95	90	95	100	480	Excellent				
Mrs. E. Preiser	90	80	90	85	100	445	Medium	4.2	31	12.79	8.59
H. J. Reum	90	85	90	95	100	460	Good	3.6	32	12.32	8.72
H. Schumacher	90	80	80	90	100	440	Medium				
Stephenson Bros.	95	85	90	95	100	465	Good				

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

**LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1914**

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING.

JAMES W. HELME.....COMMISSIONER
FERN L. SHANNON.....STATE ANALYST
M. J. SMITH.....CHIEF CLERK
A. R. TODD.....DRUG ANALYST

A TALE OF GROUND HOG.

BY J. W. HELMER.

This department is in possession of a very interesting book which has been so popular that it has reached a second edition. It is entitled "Secrets of Sausage Making" and is published by the B. Heller & Company of Chicago. This firm is a very large dealer in butcher's supplies and preservatives. The secrets of sausage making have long been desired by this department and the public generally and in this respect this book fills a long felt want.

On page 236 is an interesting chapter entitled "Bull Meat Preferable for Sausage." Here the butchers are advised by all means, if possible, to make sausage from bull meat. The reasons for this the book gives as follows:

"But the great advantage of using bull meat in preference to that of the steer and cow is on account of its greater absorption of water. The more water you work into the meat while it is being chopped, the more tender and juicy will be the sausage."

Of course the more water you get into sausage, the more weight, and in this way butchers are enabled to get 15c a pound for water. This fact, however, the book does not state in exact words but most butchers are able to read between the lines. It is a well known fact that in recent years butchers have been using some kind of cereal flour to put in sausage. Ostensibly they claim that the flour is used for the purpose of a binder and to make the sausage more palatable but the real reason is that the cereal placed therein will absorb a greater quantity of water which can be sold at the regular price of meat.

This firm manufactures for sale a cereal for placing in sausage to which they have given the aesthetic name of "Bull Meat Flour." On page 205 the firm extols the merits of their brand of Bull Meat Flour and its superiority over common Potato Flour. The book reads as follows:

"If you will take a gallon of water and put into this water one pound of Potato Flour and let it stand for one hour all of the Potato Flour will have settled to the bottom and you can pour off the gallon of water and then weigh the pound of Potato Flour and you will be surprised that it will weigh less than two pounds; it will take up less than one pound of water. Also make a test by putting one pound of Bull-Meat-Brand Flour in a gallon of water and you will find that the pound of Bull-Meat-Brand Flour will almost have absorbed the entire gallon of water."

We think the Heller Company is exaggerating somewhat when it

claims that one pound of its particular brand of cereal will absorb one gallon, which is eight pounds, of water but even if it absorbed five pounds of water to every pound of flour, the consumer would be compelled to pay a high price for water. The book gives various recipes for making different kinds of sausage and in all the recipes the book advises the use of five pounds of their celebrated Bull Meat Flour for every one hundred pounds of sausage. If their flour will absorb the water that they claim it will, the result would be that sausage, made in this way, would contain 40% water for which the consumer would pay 15c a pound.

A recent law in this state limits the amount of cereal to be placed in sausage to 2% and butchers are warned that if they follow the Heller recipes for making sausage and place five pounds of cereal in their sausage, they are violating the laws of this state and will be subject to prosecution. Already several butchers in Detroit have paid fines of \$100 each for making sausage according to Heller and more prosecutions are pending. Some of the best butchers of the state are now making sausage without cereal and their action is to be commended. If cereal is placed in sausage no matter how small the amount, it must be labeled "Sausage with Cereal" and the consumers of sausage in the state should understand that when they buy sausage with cereal, they are paying a big price for a surplus amount of water which is evaporated when the sausage is cooked. We shall have occasion to refer further to this interesting work containing the "Secrets of Sausage Making."

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of November and December, 1913:

Ahmeek, Albion, Alden, Alto, Amble, Ann Arbor, Athens, Atlantic Mine, Bad Axe, Baltic, Bancroft, Baraga, Battle Creek, Bay City, Bell Branch, Belleville, Benton Harbor, Buchanan, Cadillac, Caledonia, Calumet, Chassell, Chelsea, Clarenceville, Clinax, Copemish, Corunna, Davison, Dayton, Demmon, Detroit, Dexter, Dorr, Dundee, Durand, Eagle River, Edmore, Farmington, Fenton, Fenwick, Flint, Flushing, Franklin, Franklin Mine, Freeland, Galien, Gay, Gladwin, Gobleville, Grand Rapids, Greenland, Hale, Harbor Beach, Holly, Holland, Holton, Hopkins, Howell, Hubbell, Imlay City, Inkster, Ionia, Iron Mountain, Ithaca, Jackson, Jasper, Kalamazoo, Kearsarge, Kellogg, Keweenaw Bay, Lake City, L'Anse, Laurium, Layton Corners, LeRoy, Lowell, Lum, Manchester, Manistee, Manton, Martinsville, Mass, Mesick, Milan, Mohawk, Moline, Monroe, Morenci, Morrice, Mt. Clemens, Muskegon, Muskegon Heights, New Baltimore, Ontonagon, Opechee, Otsego, Painesdale, Parma, Phoenix, Pinconning, Plymouth, Pontiac, Portland, Powers, Port Huron, Quincy, Reed City, Richmond, Rockland, Rodney, Saginaw, Saline, Scotts, Sheridan, South Lyon, South Range, Springport, Standish, Sterling, St. Joseph, Sturgis, Thompsonville, Traverse City, TriMountain, Utica, Victoria, Wayland, Wayne, West Branch, Weston, West Sumpter, Whitehall, Whitmore Lake, Whittemore, Williamston, Willis, Winona, and Ypsilanti.

PROSECUTIONS.

Since beginning of fiscal year July 1, 1913.

Cases pending November 1, 1913.....	12
Cases commenced since said date.....	43

CASES DISPOSED OF.

Before examining magistrates:

Defendants bound over.....	18
Defendants discharged	1

In trial courts:

Defendants convicted	26
Defendants acquitted	0
Cases pending January 1, 1914.....	28
Cases pending on appeal January 1, 1914.....	3

In the case pending in circuit court, county of Calhoun, against Arthur L. Chilson charged with using sulphites in the manufacture of Hamburg Steak, defendant entered a plea of guilty and was fined \$25 and costs.

In the case pending in circuit court, county of Calhoun, against Arthur L. Chilson charged with the sale of adulterated lard, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in justice court, city of Three Rivers, against Fred Wohlfeil charged with using sulphites in the manufacture of Hamburg Steak, defendant was bound over to circuit court for trial. November 6, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in police court, city of Detroit, against I. N. Daubmyre, manager of Childs Restaurant, case dismissed.

In the case pending in circuit court, county of Jackson, against Weber & Bossong charged with using sulphites in the manufacture of Hamburg Steak, November 10, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in circuit court, county of Jackson, against Gotlieb Mollenkopf, charged with using sulphites in the manufacture of Hamburg Steak, November 10, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending on appeal in circuit court, county of Calhoun, against Albert & Ida Russell charged with selling milk from a diseased cow. November 21, defendants entered a plea of guilty.

Complaint was made October 24 in police court, city of Detroit, against Bernhardt Jacobs charged with obstructing inspectors in the performance of their duties. November 11th, defendant convicted. Case appealed to recorder's court. December 3, defendant convicted in recorder's court. Sentence deferred pending appeal to supreme court.

Complaint was made November 4, in justice court, city of Reed City, against James Campbell charged with selling lard compound without stamping same. December 8, defendant bound over to circuit court for trial. Case pending.

Complaint was made November 4 in justice court, city of Reed City against D. B. Ketchum charged with selling lard compound without stamping same. December 8, defendant bound over to circuit court for trial. Case pending.

Complaint was made November 1 in justice court, city of Saginaw, against Richard Raquepaw charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$75 and costs.

Complaint was made November 1 in justice court, city of Saginaw, against Mrs. Mary Hogland charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made November 6 in police court, city of Detroit, against John A. Peters charged with using sulphites in the manufacture of Hamburg Steak. Defendant bound over to recorder's court for trial. Defendant entered a plea of guilty. Fined \$100.

Complaint was made November 12 in police court, city of Muskegon, against Otto Lunow charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made November 12, in justice court, city of Flint, against John Bazley charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made November 13, in justice court, city of Monroe, against Erhardt Schrauder charged with selling sausage containing an excessive amount of cereal. December 1, defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made November 13, in justice court, city of Monroe, against Frank Heck charged with selling sausage containing an excessive amount of cereal. Defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made November 20 in municipal court, city of Battle Creek, against A. Hadley charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made November 29 in justice court, city of Corunna, against M. G. Schneider charged with selling sausage containing an excessive amount of cereal. November 29, defendant waived examination and was bound over to circuit court for trial. Defendant entered a plea of guilty. Fined \$10.

Complaint was made December 1 in municipal court, city of Battle Creek against V. P. Skinner & Andrew Wilson charged with the sale of decomposed chickens. Defendant waived examination and was bound over to the circuit court for trial. Case pending.

Complaint was made December 1 in police court, city of Grand Rapids, against Henry Daane charged with selling diseased meat. Defendant bound over to the Superior court for trial. Case pending.

Complaint was made December 1 in justice court, city of Lansing, against Frank Preuss charged with using sulphites in the manufacture of Hamburg Steak. December 2, defendant bound over to circuit court for trial. December 8 defendant entered a plea of guilty. Fined \$25 and thirty days in jail.

Complaint was made December 2 in police court, city of Grand Rapids, against Giovan B. Russo charged with conducting an insaniary bakery. Defendant bound over to superior court for trial. Case pending.

Complaint was made December 3 in justice court, city of Monroe,

against Edward C. Bicking charged with selling cranberries by liquid measure. Defendant entered a plea of guilty. Fined \$20.

Complaint was made December 3 in police court, city of Detroit, against John Eichhorn charged with using sulphites in the manufacture of Hamburg Steak. December 10, defendant waived examination and was bound over to recorder's court for trial. Case pending.

Complaint was made December 3 in police court, city of Detroit, against Fred Schandt charged with selling oleomargarine artificially colored. Case pending.

Complaint was made December 4 in police court, city of Bay City, against Dehn Bros. charged with using sulphites in the manufacture of Hamburg Steak. Defendant entered a plea of guilty. Fined \$25.

Complaint was made December 5 in municipal court, city of Battle Creek, against Charles Eberstein charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made December 5 in justice court, city of Albion, against Chris Bauer charged with using sulphites in the manufacture of Hamburg Steak. December 6, defendant bound over to circuit court for trial. Case pending.

Complaint was made December 11 in police court, city of Bay City, against John Rinz charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made December 5 in justice court, city of Albion, against M. E. Talmage charged with using sulphites in the manufacture of Hamburg Steak. December 6, defendant bound over to circuit court for trial. Case pending.

Complaint was made December 14 in justice court, city of Houghton, against Ed. Niemeyer, manager of the Cudahy Packing Company, Houghton, charged with selling oysters containing excessive moisture. Case pending.

Complaint was made December 16 in justice court, village of Hubbell, against Henry Opal charged with using sulphites in the manufacture of Hamburg Steak. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made December 18 in justice court, city of Lansing, against Larrabee & Son charged with selling lard compound without labeling same. Case pending.

Complaint was made December 18 in justice court, city of Lansing, against the Bazley Market Co. charged with selling sausage not stamped which contained cereal. Case pending.

Complaint was made December 18 in justice court, city of Lansing, against John M. & Harry Bopp, proprietors of the Chicago Market, charged with using sulphites in the manufacture of Hamburg Steak. Defendant bound over to circuit court for trial. Case pending.

Complaint was made December 18 in justice court, city of Lansing, against Henry A. Maier charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$4 costs.

Complaint was made December 18 in justice court, city of Lansing, against Elmer Clapham charged with selling lard compound without labeling. Defendant bound over to circuit court for trial. Case pending.

Complaint was made December 18 in justice court, city of Lansing,

against O. LaVerne Stone charged with selling lard compound without labeling. December 26, defendant waived examination. Case pending.

Complaint was made December 18 in justice court, city of Lansing, against Kirk B. VanWinkle charged with selling lard compound without labeling. Defendant bound over to circuit court for trial. Case pending.

Complaint was made December 18 in justice court, city of Lansing, against Barnard & Wimble charged with selling lard compound without labeling. Case pending.

Complaint was made December 18, in justice court, city of Lansing, against Robert Ellwanger charged with selling milk kept and transported in rusty and open-seamed cans. Defendant entered a plea of guilty and was fined \$4 costs.

Complaint was made December 18 in justice court, city of Lansing, against F. Greer charged with selling milk kept and transported in rusty and open seamed cans. Defendant entered a plea of guilty and was fined \$4 costs.

Complaint was made December 18 in justice court, city of Lansing, against Frank King charged with selling milk kept and transported in rusty and open-seamed cans. Defendant entered a plea of guilty. Fined \$4 costs.

Complaint was made December 18 in justice court, city of Lansing, against Don E. Garlock charged with selling milk kept and transported in rusty and open-seamed cans. Defendant entered a plea of guilty. Fined \$4 costs.

Complaint was made December 18 in justice court, city of Lansing, against Morgan C. Sanders charged with selling lard compound not labeled. Case pending.

Complaint was made December 18 in justice court, city of Lansing, against Edgar Bohe charged with selling milk kept and transported in rusty and open seamed cans. Defendant entered a plea of guilty. Fined \$4 costs.

Complaint was made December 18 in justice court, city of Lansing, against George Decke charged with selling lard compound without labeling. Case pending.

Complaint was made December 20 in justice court, city of Battle Creek, against Del Young charged with the sale of insanitary milk. Case pending.

Complaint was made December 29 in police court, city of Detroit, against T. Faust charged with selling oleomargarine artificially colored. Case pending.

January 1, 1914.

Hon. James W. Helme, State Dairy & Food Commissioner, Lansing, Michigan:

Dear Sir—I herewith hand you my report on the work done in the laboratory division of the Department during the months of October and November, 1913.

An unusually large number of samples were submitted for examination during the two months. A total of 473 samples were reported on; 290 of these were found to comply with the law, while 183 were found to be either adulterated, misbranded or formed the part of an illegal sale. In the appended report a brief explanation is made of the findings on each of these 183 samples. Conditions in some cities called for special investigations, consequently in some cases, a large number of samples were submitted from a single city. During November and December two inspectors made a very thorough and complete inspection of the city of Lansing. The milk samples, however, which are reported herewith and which show that many of them coming from that city contain excessive amounts of visible dirt are not from the supply which gets to the public in its raw form but were taken from the producers as they delivered their product to a condensed milk plant located in that city. Of the 151 samples examined, the report shows that 58 or about 38% of all the samples submitted contained excessive amounts of visible dirt and came from the above source. The Department has for some time past found on inspection that the milk coming to condensary plants was not of the best class. However, this is the first systematic inspection made for some time. It would seem advisable to continue this method of dealing with condensed milk plants until a better quality of milk is secured.

Sixteen samples of cream were examined. All were found to comply with the 18% butter fat standard.

During these two months the Department requested the inspectors to pay special attention to the flavoring preparations sold on the Michigan market, with a view of securing information as to the condition of the flavoring preparations with regard to the food law. Fifty-eight of these preparations are reported on herewith. It will be noted that nine of them were condemned as not complying with the law. The results of the analysis of the above will be found in the appended report. The greater number of samples received were not analyzed in time to get into this bulletin but a more detailed report of the entire work on flavoring extracts will appear in the January-February bulletin.

Of the 39 samples of Hamburg Steak examined 22 were found to be adulterated under the food law, in that they contained sulphurous acid or salts thereof.

59 samples of sausage were examined, 19 of which were adulterated within the meaning of the sausage law. Nine of these samples contained sulphurous acid or salts thereof and were condemned solely for that reason. Seven were adulterated in that they contained an excessive amount of cereal and three were misbranded in that the package

containing them or the product itself was not stamped "Sausage with Cereal," as the law requires.

Respectfully yours,
F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Buckwheat flour.....	4	4	0
Butter.....	17	14	3
Candy.....	3	3	0
Canned fruits.....	2	2	0
Canned vegetables.....	6	4	2
Catsup.....	1	1	0
Cheese (full cream).....	3	3	0
Cocoa.....	1	1	0
Colors.....	2	2	0
Condensed apple cider.....	1	0	1
Corn starch.....	1	1	0
Cream.....	16	16	0
Crackers.....	1	0	1
Egg powder.....	1	1	0
Figs.....	1	0	1
Flavoring preparations.....	58	49	9
Hamburg steak.....	39	17	22
Honey.....	3	3	0
Horse radish.....	1	1	0
Ice cream.....	2	2	0
Jellies, etc.....	4	3	1
Lard and lard compounds.....	23	13	10
Linseed oil.....	1	1	0
Macaroni.....	1	1	0
Maple syrup.....	1	1	0
Meat.....	4	3	1
Milk.....	151	74	77
Milk cans.....	5	0	5
Mince meat.....	3	3	0
Miscellaneous.....	4	4	0
Mustard preparations.....	1	0	1
Nuts.....	7	0	7
Oleomargarine.....	10	1	9
Olive oil.....	1	1	0
Oysters.....	13	7	6
Pepper.....	1	1	0
Raisins.....	1	1	0
Red peppers.....	1	0	1
Sausage.....	59	40	19
Sugar.....	1	0	1
Sugar beets.....	10	10	0
Syrup.....	2	0	2
Vinegar.....	5	2	3
White lead.....	1	0	1
Totals.....	473	290	183

ANALYSES OF SAMPLES.

BUTTER.

No. 28265, Y-149. Sample of "butter" procured from M. A. McGowan, 125 Farmer St., Detroit. Sample is oleomargarine. Proper sign not displayed.

No. 28284, G-941. Sample of butter procured from Hakkala & Gronfors, Calumet. Sample is renovated butter. Package not stamped.

No. 28786, Unofficial. Sample of butter. Product is renovated butter.

CANNED PEAS.

No. 27199, D-178. Sample of Our Favorite brand canned peas manufactured by Grafton Johnson, Whiteland, Ind., handled by H. Meisel & Son, Bay City, as jobbers and procured from Eugene St. Pierre, Bay City. Contents of can consists wholly or in part of over-ripe peas. Not "Early June" as labeled. Misbranded.

No. 28138, I-151. Sample of Sweepstakes brand canned peas manufactured by the Fame Canning Co., Tipton, Ind., handled by Harnet & Hewitt, Toledo, Ohio, and procured from P. S. Purtell, Ann Arbor. Contents of can consists wholly or in part of hard over-ripe peas. Not "Early June" as labeled. Misbranded.

CONDENSED APPLE CIDER.

No. 28321, I-162. Sample of Pure Condensed Apple Cider (Clifton's) handled by the Overmyer Co., Toledo, Ohio, and procured from J. R. Knight, Milan. Sample contains boric acid or salts thereof. Not permissible in food products. Adulterated and misbranded.

CRACKERS.

No. 28291. Unofficial. Sample of crackers. Stale and unfit for food.

FIGS.

No. 28461, E-75. Sample of "Turkey Figs" handled by the Jackson Grocery Co., Jackson, and procured from E. D. Wallace, South Lyon. Manufacturer's name and address not on label. Misbranded.

FLAVORING PREPARATIONS.

No. 28408, U-52. Sample of "Eclipse Almond Extract" manufactured by the Miller & Eberhard Co., Cleveland, Ohio, and procured from Frank Forster, 1747 Michigan Ave., Detroit. Not a true almond extract. Deficient in oil of bitter almonds.

No. 28415, G-998. Sample of lemon flavor manufactured by the Rolander Remedy Co., St. Paul, Minn., and procured from Keweenaw Bay Store Co., Keweenaw Bay. Does not comply with standard for lemon extract. No lemon oil present.

No. 28474, E-76. Sample of wintergreen extract handled by Lee &

Cady, Detroit, and procured from W. J. Warby, South Lyon. Not a true wintergreen extract. Low in oil of wintergreen.

No. 28482, E-84. Sample of cinnamon extract manufactured by the Seely Manufacturing Co., Detroit, and procured from H. J. Sweet, Howell. Not a true cinnamon extract. Low in oil of cinnamon.

No. 28502, I-172. Sample of Laurel Brand Vanillin Flavor manufactured by the Ludlow-Robson Co., Toledo, and procured from Wright & Van Dusen, Jasper. Misbranded.

No. 28515, I-175. Sample of "Special Flavoring Vanilla" manufactured by Dr. J. A. Drake, Fort Wayne, Ind., and procured from H. D. Peggs, Monroe. Misbranded.

No. 28516, I-176. Sample of "Special Flavoring Vanilla" manufactured by Dr. J. A. Drake, Fort Wayne, Ind., and procured from H. D. Peggs, Monroe. Misbranded.

No. 28764, I-193. Sample of "Vanilla, Coumarin, Vanillin" manufactured and sold by G. Holland, Port Huron, and procured from R. Snelling, Port Huron. Misbranded.

No. 28797, E-93. Sample of Monogram lemon oil manufactured by Letts & Church Co., New York. Sample is not a true lemon oil.

HAMBURG STEAK.

No. 28162, F-110. Sample of Hamburg Steak manufactured by Chas. Schoenberg, Muskegon and procured from T. Collins, Muskegon. Product contains added sulphurous acid or salts thereof.

No. 28186, E-70. Sample of Hamburg Steak procured from J. F. Knapp, Mesick. Product contains added sulphurous acid or salts thereof.

No. 28229, I-158. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing. Product contains added sulphurous acid or salts thereof.

No. 28256, V-36. Sample of Hamburg Steak procured from John Eichhorn, 1260 Kercheval Ave., Detroit. Sample contains a small amount of sulphurous acid or salts thereof.

No. 28300, P-870. Sample of Hamburg Steak manufactured by Talmage & Bauer, Albion. Product contains a small amount of added sulphurous acid or salts thereof.

No. 28311, Y-150. Sample of Hamburg Steak manufactured and sold by Dehn Bros., 101 W. Midland St., Bay City. Product contains added sulphurous acid or salts thereof.

No. 28324, Unofficial. Sample of Hamburg Steak. Product contains added sulphurous acid or salts thereof.

No. 28325, Unofficial. Sample of Hamburg Steak. Product contains added sulphurous acid or salts thereof.

No. 28356, Y-151. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing. Product contains added sulphurous acid or salts thereof.

No. 28393, G-997. Sample of Hamburg Steak manufactured by Henry Opal, Hubbell. Product contains added sulphurous acid or salts thereof.

No. 28414, Unofficial. Sample of Hamburg Steak. Product contains added sulphurous acid or salts thereof.

No. 28434, P-884. Sample of Hamburg Steak manufactured by Talmage & Bauer, Albion. Product contains added sulphurous acid or salts thereof.

No. 28484, Y-158. Sample of Hamburg Steak manufactured by John Rinz, 600 Columbus Ave., Bay City. Product contains added sulphurous acid or salts thereof.

No. 28490, F-119. Sample of Hamburg Steak manufactured by Ed. Kieling, Manistee. Product contains added sulphurous acid or salts thereof.

No. 28491, F-120. Sample of Hamburg Steak procured from A. Schleif, Manistee. Product contains sulphurous acid or salts thereof.

No. 28494, F-123. Sample of Hamburg Steak manufactured by A. Janicki, Manistee. Product contains added sulphurous acid or salts thereof.

No. 28538, Unofficial. Sample of Hamburg Steak. Product contains a very small amount of added sulphurous acid or salts thereof.

No. 28549, P-904. Sample of Hamburg Steak manufactured and sold by the Chicago Market, Lansing. Product contains added sulphurous acid or salts thereof.

No. 28588, F-124. Sample of Hamburg Steak procured from Joseph Waal, Manistee. Product contains added sulphurous acid or salts thereof.

No. 28784, F-129. Sample of Hamburg Steak procured from Joseph Vransy, Traverse City. Product contains small amount of added sulphurous acid or salts thereof.

No. 28801, F-131. Sample of Hamburg Steak procured from Van Stanek, Traverse City. Product contains added sulphurous acid or salts thereof.

No. 28802, F-132. Sample of Hamburg Steak procured from Glen Lutz, Traverse City. Product contains small amount of added sulphurous acid or salts thereof.

CRUSHED FRUITS.

No. 28135, Y-144. Sample of Cosco brand crushed strawberries manufactured by the Sethness Co., Chicago. Artificially colored. Not labeled.

LARD.

No. 28171, E-69. Sample of lard. Product contains a small amount of beef fat.

No. 28562, P-912. Sample of lard compound. Product is lard compound. Package not stamped.

No. 28568, P-919. Sample of lard compound. Not properly stamped.

No. 28570, P-921. Sample of lard compound. Package stamped but letters illegible.

No. 28577, P-927. Sample of lard compound. Package stamped but letters illegible.

No. 28582, P-932. Sample of lard compound. Package not stamped.

No. 28584, P-934. Sample of lard compound. Package not stamped.

No. 28585, P-935. Sample of lard compound. Package not stamped.

No. 28596, P-939. Sample of lard compound. Package not stamped.

No. 28597, P-940. Sample of lard compound. Package not stamped.

MEAT.

No. 28268, P-863. Sample of Meat (Pork) procured from Eugene Freeland, Battle Creek. Contains small amount of added sulphurous acid or salts thereof.

MILK.

No. 28188, P-816. Sample of milk from B. H. Van Camp, Benton Harbor. Contains an excessive amount of visible dirt.

No. 28189, P-817. Sample of milk from G. H. Smallidge, Benton Harbor. Contains an excessive amount of visible dirt.

No. 28190, P-818. Sample of milk from August Morlock, Watervliet. Contains an excessive amount of visible dirt.

No. 28199, P-827. Sample of milk from A. J. Dean, Eau Claire. Contains an excessive amount of visible dirt.

No. 28200, P-828. Sample of milk from Geo. Morlock, Watervliet. Contains an excessive amount of visible dirt.

No. 28201, P-829. Sample of milk procured from Omer Clark, Eau Claire. Contains an excessive amount of visible dirt.

No. 28202, P-830. Sample of milk procured from Ernest Wolcott, Watervliet. Contains an excessive amount of visible dirt.

No. 28203, P-831. Sample of milk procured from C. D. Yater, Watervliet. Contains an excessive amount of visible dirt.

No. 28207, Unofficial. Sample of milk. Product is homogenized milk, below the legal standard in butter fat, specific gravity and total solids.

No. 28286, P-865. Sample of milk procured from A. Hadley, Battle Creek, R. F. D. Low in total solids and specific gravity and contains approximately 14% added water.

No. 28405, P-882. Sample of milk procured from Chas. Eberstein, Battle Creek. Contains about 10% added water.

No. 28459, P-896. Sample of milk procured from Chas. Eberstein, Battle Creek. Below standard in specific gravity. Contains about 5% added water.

No. 28468, P-897. Sample of milk procured from Chas. Eberstein, Battle Creek. Contains about 12% added water.

No. 28469, Unofficial. Sample of milk. A part of the cream has been removed.

No. 28609, Unofficial. Sample of milk. Contains about 50% added water.

No. 28610, Unofficial. Sample of milk. Contains about 12% added water.

No. 28647, P-945. Sample of milk procured from George Keck, Lansing. Contains an excessive amount of visible dirt.

No. 28648, P-946. Sample of milk procured from Henry Wesemiller, Lansing. Contains an excessive amount of visible dirt.

No. 28649, P-947. Sample of milk procured from E. R. Holly, Lansing. Contains an excessive amount of visible dirt.

No. 28650, P-948. Sample of milk procured from John Volz, Lansing. Contains an excessive amount of visible dirt.

No. 28651, P-949. Sample of milk procured from C. T. Rockwell, Lansing. Contains an excessive amount of visible dirt.

No. 28656, P-954. Sample of milk procured from Norman Weaver, Okemos. Contains an excessive amount of visible dirt.

No. 28658, P-956. Sample of milk procured from W. F. Hewitt, Okemos. Contains an excessive amount of visible dirt.

No. 28661, P-959. Sample of milk procured from O. Tommerill, Okemos. Contains an excessive amount of visible dirt.

- No. 28663, P-961. Sample of milk procured from C. Klopz, East Lansing. Contains an excessive amount of visible dirt.
- No. 28665, P-963. Sample of milk procured from L. Leitske, Lansing. Contains an excessive amount of visible dirt.
- No. 28669, P-967. Sample of milk procured from H. Boissett, Lansing. Contains an excessive amount of visible dirt.
- No. 28670, P-968. Sample of milk procured from J. Siple, Lansing. Contains an excessive amount of visible dirt.
- No. 28672, P-970. Sample of milk procured from Fred Tucker, Lansing. Contains an excessive amount of visible dirt.
- No. 28673, P-971. Sample of milk procured from C. M. Morrison, Lansing. Contains an excessive amount of visible dirt.
- No. 28674, P-972. Sample of milk procured from H. F. Lotz, Lansing. Contains an excessive amount of visible dirt.
- No. 28678, P-976. Sample of milk procured from F. Kloeper, Lansing. Contains an excessive amount of visible dirt.
- No. 28679, P-977. Sample of milk procured from Wm. Maier, Lansing. Contains an excessive amount of visible dirt.
- No. 28680, P-978. Sample of milk procured from Geo. Maier, Lansing. Contains an excessive amount of visible dirt.
- No. 28681, P-979. Sample of milk procured from Mrs. Wardlick, Lansing. Contains an excessive amount of visible dirt.
- No. 28682, P-980. Sample of milk procured from F. I. Slade, Lansing. Contains an excessive amount of visible dirt.
- No. 28683, P-981. Sample of milk procured from P. Boomersheim, Lansing. Contains an excessive amount of visible dirt.
- No. 28684, P-982. Sample of milk procured from Chas. Maier, Lansing. Contains an excessive amount of visible dirt.
- No. 28686, P-984. Sample of milk procured from C. W. Garlock, Lansing. Contains an excessive amount of visible dirt.
- No. 28690, P-988. Sample of milk procured from F. M. Hess, Lansing. Contains an excessive amount of visible dirt.
- No. 28692, P-990. Sample of milk procured from Geo. St. Clair, Lansing. Contains an excessive amount of visible dirt.
- No. 28693, P-991. Sample of milk procured from J. J. Bentley, Lansing. Contains an excessive amount of visible dirt.
- No. 28697, P-995. Sample of milk procured from S. Hicks, Lansing. Contains an excessive amount of visible dirt.
- No. 28698, P-996. Sample of milk procured from C. Heil, Lansing. Contains an excessive amount of visible dirt.
- No. 28705, P-1003. Sample of milk procured from I. R. Doty, Lansing. Contains an excessive amount of visible dirt.
- No. 28707, P-1005. Sample of milk procured from Ed. Hill, Lansing. Contains an excessive amount of visible dirt.
- No. 28708, P-1006. Sample of milk procured from H. Dixon, Lansing. Contains an excessive amount of visible dirt.
- No. 28711, P-1009. Sample of milk procured from E. Copenlander, Lansing. Contains an excessive amount of visible dirt.
- No. 28713, P-1011. Sample of milk procured from R. Clendening, Lansing. Contains an excessive amount of visible dirt.
- No. 28714, P-1012. Sample of milk procured from Albert Rickert, Lansing. Contains an excessive amount of visible dirt.

No. 28715, P-1013. Sample of milk procured from A. L. Hart, Lansing. Contains an excessive amount of visible dirt.

No. 28717, P-1015. Sample of milk procured from H. J. Lovell, Lansing. Contains an excessive amount of visible dirt.

No. 28719, P-1017. Sample of milk procured from T. Stoll, Lansing. Contains an excessive amount of visible dirt.

No. 28730, P-1028. Sample of milk procured from A. Renkle, Lansing. Contains an excessive amount of visible dirt.

No. 28732, P-1030. Sample of milk procured from J. Eaton, Lansing. Contains an excessive amount of visible dirt.

No. 28733, P-1031. Sample of milk procured from Frank Everett, Lansing. Contains an excessive amount of visible dirt.

No. 28735, P-1033. Sample of milk procured from G. A. Maier, Lansing. Contains an excessive amount of visible dirt.

No. 28736, P-1034. Sample of milk procured from Geo. Rensch, Lansing. Contains an excessive amount of visible dirt.

No. 28737, P-1035. Sample of milk procured from Geo. Kussmaul, Lansing. Contains an excessive amount of visible dirt.

No. 28739, P-1037. Sample of milk procured from F. Goodsell, Lansing. Contains an excessive amount of visible dirt.

No. 28741, P-1039. Sample of milk procured from F. Goodrich, Lansing. Contains an excessive amount of visible dirt.

No. 28742, P-1040. Sample of milk procured from Fred Ellwanger, Lansing. Contains an excessive amount of visible dirt.

No. 28743, P-1041. Sample of milk procured from A. Reboutey, Lansing. Contains an excessive amount of visible dirt.

No. 28744, P-1042. Sample of milk procured from R. T. Lischky, Lansing. Contains an excessive amount of visible dirt.

No. 28745, P-1043. Sample of milk procured from A. Bernard, Lansing. Contains an excessive amount of visible dirt.

No. 28746, P-1044. Sample of milk procured from E. Williams, Lansing. Contains an excessive amount of visible dirt.

No. 28749, P-1047. Sample of milk procured from Phillip Taylor, Lansing. Contains an excessive amount of visible dirt.

No. 28751, P-1049. Sample of milk procured from J. Dingler, Lansing. Contains an excessive amount of visible dirt.

No. 28752, P-1050. Sample of milk procured from A. Lamereaux, Lansing. Contains an excessive amount of visible dirt.

No. 28753, P-1051. Sample of milk procured from A. Burgess, Lansing. Contains an excessive amount of visible dirt.

No. 28754, P-1052. Sample of milk procured from R. Lott, Lansing. Contains an excessive amount of visible dirt.

No. 28755, P-1053. Sample of milk procured from J. Fishel, Lansing. Contains an excessive amount of visible dirt.

No. 28757, P-1055. Sample of milk procured from J. B. Delaney, Lansing. Contains an excessive amount of visible dirt.

No. 28842, P-1063. Sample of milk procured from English & Phillips, Sturgis. Above standard in Sp. Gr. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 28847, N-34. Sample of milk from Geo. Needham, Breckenridge R. F. D. No. 5. Contains added water.

No. 28849, N-36. Sample of milk from Geo. Needham, Breckenridge R. F. D. No. 5. Below standard in specific gravity, butter fat and

total solids. Contains an excessive amount of visible dirt and about 46% added water.

No. 28876, P-974. Sample of milk from F. Schroover, Lansing. Contains an excessive amount of visible dirt.

MILK CANS.

P-1057. Milk can procured from F. Greer, Lansing. Rusty and insanitary.

P-1058. Milk can procured from Robert Ellwanger, DeWitt. Rusty and insanitary.

P-1059. Milk can procured from Edgar Bohe, Dimondale. Rusty and insanitary.

P-1060. Milk can procured from C. W. Garlock, Grand Ledge R. F. D. No. 4. Rusty and insanitary.

P-1061. Milk can procured from Frank King, Lansing R. F. D. No. 4. Rusty and insanitary.

MUSTARD PREPARATIONS.

No. 28772, I-196. Sample of "LaCreme Salad Mustard" manufactured by R. J. Meguiar & Co., Piqua, Ohio, handled by the National Grocer Co., Port Huron. Misbranded.

NUTS.

No. 28394, P-881. Sample of Brazil Nuts sold by Reid, Murdock Co., Chicago, Ill. Coated with iron compound thereby causing them to appear better or of greater value than they really are.

No. 28495, P-898. Sample of "Pili" nuts sold by J. B. Lavezzorio & Company, Chicago, Ill. Coated with iron compound thereby causing them to appear better or of greater value than they really are.

No. 28496, P-899. Sample of Pecan nuts sold by Joe Casabian, Grand Rapids. Coated with iron compound thereby causing them to appear better or of greater value than they really are.

No. 28500, P-900. Sample of "Pili" nuts sold by Lee & Cady, Kalamazoo. Coated with iron compound thereby causing them to appear better or of greater value than they really are.

No. 28501, P-901. Sample of "Paradise" Nuts sold by Denney & Company, Chicago, Ill. Coated with iron compound thereby causing them to appear better or of greater value than they really are.

No. 28551, P-906. Sample of Mixed Nuts procured from Geo. Spaniolo, Lansing. Pili nuts are coated with iron compound thereby causing them to appear better or of greater value than they really are.

No. 28789, Y-164. Sample of Nuts sold by Frank Spalla, Kalamazoo. Coated with iron compound, thereby causing them to appear better or of greater value than they really are.

OLEOMARGARINE.

No. 28139, G-940. Sample of oleomargarine procured from Geo. Jensen, Escanaba. Legal sign not displayed.

No. 28159, I-155. Sample of oleomargarine procured from Edward Keefer, Ann Arbor. Proper sign not displayed.

No. 28225, J-38. Sample of oleomargarine procured from T. Faust,

168 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.
No. 28295, V-37. Sample of oleomargarine procured from Fred Schandt, 1521 Mt. Elliott Ave., Detroit. Product is oleomargarine artificially colored.

No. 28343, G-957. Sample of oleomargarine procured from Vertin Bros. Inc., Calumet. Legal sign not displayed.

No. 28364, G-971. Sample of oleomargarine procured from the Finnish Workmen's Cooperative Co., Kearsarge. Product is oleomargarine. No sign displayed.

No. 28596, P-920. Sample of oleomargarine procured from M. C. Saunders, East Lansing. Product is oleomargarine. No sign posted.

No. 28637, G-1016. Sample of oleomargarine procured from A. Eister, Laurium. Product is oleomargarine. Legal sign not displayed.

No. 27849, D-194. Sample of oleomargarine procured from T. Faust, 168 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

OYSTERS.

No. 28213, P-834. Sample of oysters procured from M. J. Teed, Benton Harbor. Oysters contain an excessive amount of moisture.

No. 28258, I-159. Sample of oysters procured from Joseph Robert & Son, Monroe. Sample contains an excessive amount of moisture.

No. 28421, G-1004. Sample of oysters sold by the Cudahy Packing Co., Houghton. Sample contains an excessive amount of water.

No. 28600, I-184. Sample of oysters procured from J. Roberts & Son, Monroe. Sample contains an excessive amount of moisture.

No. 28602, I-186. Sample of oysters procured from C. Munch, Monroe. Sample contains an excessive amount of moisture.

No. 28603, I-187. Sample of oysters procured from Joseph Roberts & Son, Monroe. Sample contains an excessive amount of moisture.

RED PEPPERS.

No. 28187, I-156. Sample of red peppers sold by Francis H. Leggett & Co., New York, and procured from L. T. Freeman Co., Chelsea. Packer's name and address not stated on the label. Misbranded.

SAUSAGE.

No. 28152, E-67. Sample of bologna sausage manufactured and sold by M. G. Schneider, Durand. Sample contains an excessive amount of cereal. Package not stamped.

No. 28160, F-108. Sample of sausage manufactured and sold by A. J. Wibolda, Muskegon. Product contains an excessive amount of cereal. Package not stamped.

No. 28228, I-157. Sample of bologna sausage manufactured and sold by Frank Preuss, Lansing. Product contains an excessive amount of cereal. Package not stamped.

No. 28232, P-838. Sample of sausage manufactured and sold by Harry T. Brown, Battle Creek. Product contains an excessive amount of cereal. Package not stamped.

No. 28234, P-840. Sample of sausage manufactured and sold by H. C. Latta, Battle Creek. Product contains an excessive amount of cereal. Package not stamped.

No. 28237, P-843. Sample of sausage manufactured and sold by E. Freeland, Battle Creek. Product contains added sulphurous acid or salts thereof.

No. 28242, P-847. Sample of sausage manufactured and sold by E. Freeland, Battle Creek. Product contains added sulphurous acid or salts thereof.

No. 28266, P-861. Sample of sausage manufactured and sold by Eugene Freeland, Battle Creek. Product contains added sulphurous acid or salts thereof.

No. 28267, P-862. Sample of sausage manufactured and sold by Eugene Freeland, Battle Creek. Sample contains a small amount of sulphurous acid.

No. 28298, P-868. Sample of sausage manufactured and sold by Talmage & Bauer, Albion. Product contains a small amount of sulphurous acid or salts thereof.

No. 28403, I-169. Sample of frankfurt sausage procured from W. N. Farline, Springport. Package not stamped to indicate cereal.

No. 28404, I-170. Sample of bologna sausage manufactured and sold by C. A. Chamberlain, Springport. Product contains an excessive amount of cereal. Package or product not stamped.

No. 28492, F-121. Sample of sausage procured from A. Schlaif, Manistee. Product contains added sulphurous acid or salts thereof.

No. 28549, P-904. Sample of sausage procured from the Chicago Market, Lansing. Product contains added sulphurous acid or salts thereof.

No. 28572, P-923. Sample of bologna sausage manufactured and sold by the Chicago Market, Lansing. Package or product not stamped to indicate the presence of cereal.

No. 28595, P-938. Sample of sausage procured from Bazley Market Co., Lansing. Package not stamped to indicate the presence of cereal.

No. 28803, F-133. Sample of sausage procured from Glen Lutz, Traverse City. Product contains a small amount of sulphurous acid or salts thereof.

No. 28812, W-27. Sample of sausage procured from Peter Sliter, Kalamazoo. Product contains added sulphurous acid or salts thereof.

No. 27848, D-195. Sample of sausage procured from Lambkin Bros., 125 Michigan Ave., Detroit. Cereal present. Package not stamped.

SUGAR.

No. 28163, F-111. Sample of sugar procured from the Red Front Grocery Co., Muskegon. Sample has bad odor probably derived from storage.

SYRUPS.

No. 28161, F-109. Sample of "Alexander's Syrup" manufactured by the Alexander Co., Cincinnati, Ohio, and sold by the Moulton Grocer Co., Muskegon. Misbranded.

No. 28571, P-922. Sample of "Canada Woods" Syrup manufactured by the Clarence A. Crane Co., Warren, Ohio, and handled by the Northrup, Robertson & Carrier Co., Lansing. Misbranded. Does not state percentage of ingredients other than maple.

VINEGAR.

No. 27743, I-97. Sample of cider vinegar manufactured by D. A. Lockhart, Waldron, and procured from W. E. Cockin, Waldron. Cider vinegar below standard in acidity.

No. 27907, G-927. Sample of wine vinegar manufactured by Santori & Toschana, South Range, and procured from Raffaello Mugniani, Hancock. Should be labeled distilled vinegar. Below standard in acidity.

No. 28090, F-105. Sample of "DeLuxe" cider vinegar manufactured by the Hume Grocer Co., Muskegon. Sample is not pure fermented apple vinegar as labeled. Misbranded.

WHITE LEAD.

No. 28113, Unofficial. Sample of white lead. No white lead present. Composed of barytes, lead sulphate and zinc oxide.

DRUG INSPECTIONS.

The following places were visited by the Department's drug inspection force during the months of November and December, 1913.

Adrian, Alma, Ann Arbor, Beaverton, Bellaire, Big Rapids, Birmingham, Blissfield, Boyne City, Boyne Falls, Brighton, Byron, Cadillac, Cassopolis, Charlevoix, Clare, Clarkston, Clinton, Coleman, Comstock, Coopersville, Detroit, Dexter, Dundee, East Jordan, Edmore, Edwardsburg, Elk Rapids, Farwell, Fenton, Gaines, Grand Haven, Grand Rapids, Harbor Springs, Holly, Howard City, Howell, Hudson, Ithaca, Kalamazoo, Kingsley, Linden, Ludington, Manchester, Manistee, Marshall, Milan, Milford, Monroe, Morenci, Mt. Pleasant, Northport, Orion, Oxford, Petoskey, Pinckney, Pontiac, Provemont, Quincy, Reed City, Rochester, Romeo, Royal Oak, Sand Lake, Saranac, Shepherd, South Lyon, Spring Lake, St. Louis, Stockbridge, Suttons Bay, Three Rivers, Traverse City, Trenton, Tustin, Vicksburg, and Wyandotte.

HIRSUTE FERTILIZERS.

BY J. W. HELME.

When the Lord of Creation visits the barber shop weekly to have the hair removed from his chin and encouraged on his topknot, he is confronted by a row of bottles on the barber's stand labeled "Eau De Quinine," "Herpicide," etc., all of which the barber recommends as a fertilizer for the human dome to reforest the barren areas thereon.

For swatting a small handful of this on the customer's head, the barber charges from 10c to 15c. Some mathematical sharp has figured it up that at 15c a swat the barber clears the tidy sum of \$48 on each gallon of dope he disposes of. Some people would think this was a fair profit, but a concern doing business under the name of The Avondale Co. in Detroit has devised a scheme to give the barber even more profit. This concern advertises a series of imitations of the leading hair restorers at a much less price per gallon. They sell "O. D. Q. Nine" as an imitation of the imported Eau De Quinine, "Hurpoline" as an imitation of Herpicide and so on through the list. Some barbers take these cheaper imitations and put them in the original bottles of the higher priced dopes thereby increasing their profits at the expense of the customer's ignorance. Naturally, makers of the high-priced articles complained of this system which is a violation of the Drug Laws of the state. When barbers were threatened with prosecution for using these preparations for the originals, The Avondale Co. came back by sending out a circular which in part reads as follows:

"To, begin with, as most barbers know, manufacturers of Dandruff Cures, Hair Growers, etc., are Fakers. They can't grow hair nor cure dandruff—and they know it.

"They defraud the public through lying advertisements and, we are told, they are now trying to force barbers to continue the using of their high-priced, fake goods through a "bluff" stand-bottle system, which they say is backed up by the law.

"Are Fakers backed up by law? WE SHOULD SAY NOT. Laws were made to put Fakers out of business, and not for their protection. Hair Tonic Fakers are legal outcasts—same as gamblers, quack doctors or the slot machine grafters.

"Any time Hair Tonic Fakers talk of prosecuting barbers, because they substitute lower priced products for high priced Fakes, they're bluffing—GIVE THEM THE SLOT MACHINE LAUGH.

"Fakers dare not go to court; they're at your mercy and could be put out of business, themselves, by the very laws they claim protect them—and they know it. NOW THEN! SAVE A COUPLE OF 'BUCKS' ON YOUR NEXT ORDER.

"Barbers are asked to patronize The Avondale Co. because we sell 'Good Stuff' and sell it at a reasonable price."

This will be interesting reading to the bald and near bald. The Avondale Co. virtually says "All hair restorers and dandruff cures are fakes. We will sell you something equally as good at a less price."

We are inclined to think this statement is correct. If there was any medicine that would cure bald heads, would we smooth pates endure the shots of the girls at the burlesque shows when we sit on the front seats? Never! Not if \$10 worth of hairgrower would produce a second growth pasture on top of our cerebellums. The Avondale dopes are probably as efficient as any in getting a man's money without delivering the goods. Barbers are warned, however, that if Avondale or other goods are placed in bottles of other manufacturers, they invite prosecution under the Drug Laws.

To be sure, the "Avondale Co." agrees to protect their customers but the Secretary of State's Office shows there is no such company as the "Avondale" Co. Such a company was incorporated on June 12, 1911, but it filed a dissolution notice on Nov. 20, 1911, and has not had a legal existence since that time. Its guarantee, therefore, is as worthless as it admits its products to be.

There is just one sure cure for bald heads and that is to wear a wig or be a woman.

January 1st, 1914.

Hon. James W. Helme, State Dairy & Food Commissioner, Lansing,
Michigan:

Dear Sir—I herewith beg to submit my report for the months of
November and December.

During this time a total of 82 samples were examined, 29 or 35%
of which were found to be adulterated or misbranded in that they did
not comply with the requirements of the drug law.

I desire to call your attention especially to the three following prepara-
tions: Spirits of Nitre, Spirits of Peppermint and Tr. of Iodine. 75%
of the Spirits of Nitre examined, as well as 80% of the Peppermint and
50% of the Iodine were below standard. These preparations are im-
portant and are frequently called for by the laity. Inasmuch as their
methods of manufacture are extremely simple, there is no legitimate
excuse for these products not being up to the legal standard.

Yours truly,
A. R. Todd,
Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Aspirin tablets.....	2	2	0
Boric acid.....	1	1	0
Camphorated oil.....	3	2	1
Elixir Iron, Quinine and S. Phos.....	1	0	1
Elixir Iron, Quinine and Strychnine.....	1	1	0
Epsom salts.....	1	1	0
Fowlers solution.....	2	2	0
Headache powders.....	12	8	4
Hydrogen peroxide.....	1	0	1
Morphine sulphate tablets.....	1	1	0
Paragoric.....	3	3	0
Pepsin (essence).....	4	3	1
Proprietary preparations.....	1	1	0
Seidlitz powders.....	1	1	0
Soap liniment.....	6	2	4
Spirits camphor.....	9	7	2
Spirits nitre.....	4	1	3
Spirits peppermint.....	5	1	4
Tr. iodine.....	15	8	7
Tr. Nux vomica.....	1	1	0
Tr. opium.....	6	5	1
Zinc ointment.....	2	2	0
Totals.....	82	53	29

ANALYSES OF SAMPLES.

CAMPHORATED OIL.

No. 28832, Q-229. Sample of camphorated oil manufactured and sold by E. L. Langworthy, Linden. Not in conformity with U. S. P. requirements. Low in camphor.

ELIXIR IRON, QUININE & STRYCHNINE PHOSPHATE.

No. 28217, Q-194. Sample of elixir iron, quinine and strychnine phosphate manufactured and sold by the Cushing Pharmacy, Ann Arbor. Not a U. S. P. product. Low in quinine and strychnine.

HEADACHE POWDERS.

No. 28178. Unofficial. Sample of Haans Headache Powders. Misbranded in that each powder contains about three times as much acetanilid as the amount stated on the label.

No. 28454, Z-164. Sample of Greene's Headache Powder manufactured and sold by C. R. Greene, Grand Rapids. Acetanilid present. No statement of acetanilid on label.

No. 28623, Z-178. Sample of Anderson's Headache & Neuralgia Powders manufactured and sold by Chas. J. Anderson, Manistee. Labeled acetanilid 4 gr. Strength of this preparation falls below the professed standard under which it is labeled.

No. 28624, Z-179. Sample of Frank's Headache Powders manufactured and sold by Frank A. Adamski, Manistee. Labeled acetanilid per powder 3 gr. Strength of this preparation falls below the professed standard under which it is labeled.

HYDROGEN PEROXIDE.

No. 28527, Q215. Sample of Hydrogen Peroxide manufactured by the Aetna Chemical Company, Detroit, and procured from P. E. Richter, Adrian. Not an U. S. P. preparation. Low in available oxygen.

PEPSIN.

No. 28472, Q-210. Sample of Pepsin manufactured by the Nelson & Baker Co., Detroit, and procured from Mrs. S. A. Ferguson, 3130 Jefferson Ave., W., River Rouge. Below U. S. P. requirements in digestive power.

SOAP LINIMENT.

No. 28223, Z-155. Sample of soap liniment manufactured and sold by F. O. Cowdry, Mt. Pleasant. Not an U. S. P. preparation. Low in camphor and soap.

No. 28620, Z-175. Sample of soap liniment manufactured and sold by Johnson Drug Co., Traverse City. Not an U. S. P. preparation. Low in camphor and soap.

No. 28622, Z-177. Sample of soap liniment manufactured and sold by the American Drug Co., Traverse City. Not an U. S. P. preparation. Low in camphor and soap.

No. 28819, Z-194. Sample of soap liniment manufactured and sold by James Gidley, East Jordan. Not an U. S. P. preparation. Does not contain proper proportion of soap.

SPIRITS CAMPHOR.

No. 28218, Q-195. Sample of spirits camphor manufactured and sold by the Sibley Pharmacy, 417 Woodward Ave., Detroit. Sample is low in camphor and consists in part of wood alcohol.

No. 28280, Q-200. Sample of spirits camphor manufactured and sold by Jones Bros., 1653 Grand River Ave., Detroit. Not U. S. P. Low in camphor.

SPIRITS NITRE.

No. 28277, Q-197. Sample of spirits nitre manufactured and sold by W. R. Gordon, 211 Farnsworth St., Detroit. Not U. S. P. Low in ethyl nitrite.

No. 28282, Q-202. Sample of spirits nitre manufactured and sold by H. S. Taylor, 200 Henry St., Detroit. Not U. S. P. Low in ethyl nitrite.

No. 28831, Q-228. Sample of spirits nitre manufactured and sold by E. L. Langworthy, Linden. Not U. S. P. Low in ethyl nitrite.

SPIRITS PEPPERMINT.

No. 28149, Q-186. Sample of spirits peppermint manufactured and sold by B. H. Fanning, 1330 Mack Ave., Detroit. Not U. S. P. Low in oil of peppermint.

No. 28279, Q-199. Sample of spirits peppermint manufactured and sold by Jones Bros., 1653 Grand River Ave., Detroit. Not U. S. P. Low in oil of peppermint.

No. 28283, Q-203. Sample of spirits peppermint manufactured and sold by F. Courtright, 242 Grand River Ave., Detroit. Not U. S. P. Low in oil of peppermint.

No. 28630, Z-185. Sample of spirits peppermint manufactured and sold by E. E. Miller & Son, Traverse City. Not U. S. P. Low in oil of peppermint.

TINCTURE IODINE.

No. 28276, Q-192. Sample of Tr. Iodine manufactured and sold by Little & Son, 1609 Joseph Campau Ave., Detroit. Not U. S. P. Low in iodine and potassium iodide.

No. 28456, Z-166. Sample of Tr. Iodine manufactured and sold by F. M. Fish, Cassopolis. Not U. S. P. Low in potassium iodide.

No. 28526, Q-214. Sample of Tr. Iodine manufactured and sold by E. W. Lee & Son, Morenci. Not U. S. P. Low in iodine and potassium iodide.

No. 28531, Q-219. Sample of Tr. Iodine manufactured and sold by Cahalan Bros. Co., Wyandotte. Not U. S. P. Low in iodine.

No. 28621, Z-176. Sample of Tr. Iodine manufactured and sold by G. L. Fenton, Kingsley. Not U. S. P. Low in iodine and potassium iodide.

No. 28628, Z-183. Sample of Tr. Iodine manufactured by B. D. Burkhead, Northport. Not U. S. P. Low in iodine and potassium iodide.

No. 28820, Z-196. Sample of Tr. Iodine manufactured and sold by Webber-Benson Co., Cadillac. Not U. S. P. Low in potassium iodide.

LAUDANUM.

No. 28127, Unofficial. Sample of laudanum. Product is low in morphine. Not U. S. P.

WEIGHTS AND MEASURES.

The Dairy & Food Department will send out monthly letters to the weights and measures men for the purpose of keeping in touch with them and we want the different city and county officials to confer with us about the problems that they will have to solve in the future. Several new sealers have been appointed whom we are glad to welcome to our weights and measures family.

This month I wish to call attention to the dry and liquid measures. If you will turn to page 18 of the Instructions to Weights and Measures Officials published by this department and which you may have on application, you will notice that the Dairy & Food Commissioner has set the minimum diameters of dry measures. There are a great many different types of these measures on the market and if we do not adhere to the standards set as far as the diameter is concerned, there will not be much change on the manufacturer's part in conforming to the standard measure. The new officials, and possibly some of the old ones, will find it to their advantage if they will go direct to the hardware stores, wholesale grocers and other dealers who sell measures and stamp both the dry and liquid measures that conform to the law and if those dealers' measures are not legal, they will then take the matter up with the manufacturer. Our department would like to have the sealers send in the names of any manufacturers who are not making legal measures with the date of the invoice so we can take the matter up direct with them.

Some of the new sealers may not understand why we have set the diameter so wide. They will find a large number of narrow, bottomless measures and narrow measures of other types on the market which owing to the narrow diameter it is very hard to heap on potatoes, apples, etc., sufficient to get the legal weight while the standard set by the department will hold the legal weight if heaped enough. The new officials will also find a large number of dealers who are using liquid quarts for dry commodities such as cranberries, beans, etc. Now liquid measures are to be used solely for liquids and all such dry commodities are to be measured in dry measures. Give a strong warning to all such dealers and prosecute if the offense is repeated.

Yours truly,
BURR B. LINCOLN,
Deputy Dairy & Food Commissioner.

SCALES EXAMINED DURING THE MONTHS OF NOVEMBER AND DECEMBER, 1913.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
Bad Axe Coal Co.	Bad Axe.	1	1	
Bad Axe Grain Co., No. 1	Bad Axe.	5	2	3
Bad Axe Grain Co., No. 2	Bad Axe.	3		
Clarke & McCaren.	Bad Axe.	2	1	
C. E. Engel.	Bad Axe.	1	3	
Farmers Elevator and Produce Co.	Bad Axe.	3	4	
Farm Products Co.	Bad Axe.	2		1
Ferris & Klemmer.	Bad Axe.	*1	1	
Joseph Fremont.	Bad Axe.	*5		
James Haley.	Bad Axe.		1	1
John Hunt.	Bad Axe.	1		
Lankin & Dundas.	Bad Axe.	1		1
J. H. Muchler.	Bad Axe.			1
E. B. Muller & Co.	Bad Axe.	3		
P. M. Ry. Station.	Bad Axe.		2	
Saginaw Beef Co.	Bad Axe.	1		
Terwilliger's Market No. 1.	Bad Axe.	1	1	
Terwilliger's Market No. 2.	Bad Axe.		2	
Tripp & Son.	Bad Axe.			2
Elkton Grain Co.	Elkton.	5	2	2
Elkton Postoffice.	Elkton.	1	1	1
Farmers and Gleaners Elevator Co.	Elkton.	6		1
P. M. Ry.	Elkton.		1	
Michigan Sugar Co.	Grassmere.	1	1	
E. B. Muller & Co.	Grassmere.		2	
M. N. Allen.	Harbor Beach.	1	1	
R. C. Allen.	Harbor Beach.	2		
Wm. Brethern.	Harbor Beach.	1		
Harbor Beach Grocery Co.	Harbor Beach.	*1		
Huron Milling Co. Elevator.	Harbor Beach.		2	5
Huron Milling Co. Mill.	Harbor Beach.	1		4
Herman Jacobs.	Harbor Beach.		1	
J. W. Kelley.	Harbor Beach.			2
Klump & Wisbeck.	Harbor Beach.	1	1	
J. J. Leszczynski.	Harbor Beach.	3		
S. P. Marlette.	Harbor Beach.			1
Mehethaler Co. (Gen. Mdse.)	Harbor Beach.	3		
Mehethaler Co. (Hardware)	Harbor Beach.	1		
Mehethaler Co. (Mdse.)	Harbor Beach.	3		3
P. M. Ry. (Depot Scales)	Harbor Beach.	1	1	
Producers Grain Elevator.	Harbor Beach.	2	1	1
James Ramage (Coal)	Harbor Beach.	1		
Gus Wick.	Harbor Beach.	*1		
Kimmick & Nesper.	Lansing.			3
Owosso Sugar Co.	Lansing.	5		3
Michigan Sugar Co.	Manning.		1	
West Bay City Sugar Co.	Manning.		1	
Engle & Smith.	Port Hope.			1
Joseph Hubbard, Jr.	Port Hope.	1		1
Mehethaler Co.	Port Hope.	4	1	1
John Mockles.	Port Hope.		1	
Port Huron Creamery Co.	Port Hope.			1
Postoffice.	Port Hope.	1	2	
Staffords Flour Mill.	Port Hope.	2	2	
Stafford & Co. (Gen. Mdse.)	Port Hope.		4	

* Not sealed.

MEASURES EXAMINED DURING THE MONTHS OF NOVEMBER AND DECEMBER, 1913.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
C. E. Engel	Bad Axe	1		
Terwilligers Market No. 1	Bad Axe	1		
Harbor Beach Grocery Co.	Harbor Beach ..	1	2	
Herman Jacobs	Harbor Beach ..	1	2	
J. W. Kelley	Harbor Beach ..	1		
J. J. Lesczynski	Harbor Beach ..	2		1
S. P. Marlette	Harbor Beach ..		2	
Mehethaler Co. (Hardware)	Harbor Beach ..	7		4
Mehethaler Co. (Mdse.)	Harbor Beach ..	5		
Gus Wick	Harbor Beach ..	2		
Engle and Smith	Port Hope	1		

WEIGHTS EXAMINED DURING THE MONTHS OF NOVEMBER AND DECEMBER, 1913.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
Bad Axe Coal Co.	Bad Axe	3		
Bad Axe Grain Co. No. 1.	Bad Axe	14		3
Bad Axe Grain Co. No. 2.	Bad Axe	10		1
Clark & McCaren.	Bad Axe	9		
C. E. Engel	Bad Axe	4		
Farm Products Co.	Bad Axe	1		1
Ferris & Klemmer	Bad Axe		9	
J. H. Muchler	Bad Axe	3		1
E. B. Muller & Co.	Bad Axe	7		2
Saginaw Beef Co.	Bad Axe	2		1
Terwilligers Market No. 1	Bad Axe	3		
Elkton Grain Co.	Elkton	20		
Farmers and Gleaners Elevator Co.	Elkton	10		
M. N. Allen	Harbor Beach ..	4		
R. C. Allen	Harbor Beach ..	5		
Wm. Breathern	Harbor Beach ..	4		
J. W. Kelley	Harbor Beach ..	7		2
Klump & Wisbeck	Harbor Beach ..	10		
S. P. Marlette	Harbor Beach ..	1		1
Mehethaler Co. (Hardware)	Harbor Beach ..	2		1
Mehethaler Co. (Mdse.)	Harbor Beach ..	10		
Kimmick & Nesper	Lansing	8		8

*Not sealed.

COUNTY SEALERS.

The Weights & Measures Law passed by the last legislature provides that any county might appoint a County Sealer under this law. The law being optional rather than obligatory, very few appointments have been made up to date. The following gives the list of County Sealers appointed by the Boards of Supervisors of their respective counties up to the time this bulletin goes to press.

Name.	County.	Address.
G. A. Hawkins.....	Bay.....	Bay City.
Archie Stewart.....	Alpena.....	Alpena.
V. A. Ripley.....	Chippewa.....	Sault Ste. Marie.
Walter W. Dean.....	Grand Traverse.....	Traverse City.
E. W. Clark.....	Washtenaw.....	Manchester.
P. Connors.....	Ontonagon.....	Matchwood.
R. G. Elliott.....	Alger.....	Munising.
J. W. Tait.....	Iosco.....	East Tawas.
C. J. Wuellner.....	Menominee.....	Menominee.

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter pounds.	Sanitary surroundings.
Allegan Co., November:					
Allegan Creamery	Allegan	Overton Creamery Co.			Good ..
Dorr Creamery	Dorr	Overton Creamery Co.			Good ..
Hilliard Creamery	Hilliard	Frank Jankoski	1,875,000	68,412	Fair ..
Hopkins Creamery Co.	Hopkins	A. C. Miller	5,427,810	92,774	Fine ..
Ingraham & Travis Milk Station	Plainwell	Ingraham & Travis			Good ..
Kellogg Creamery Co.	Kellogg	A. C. Westergard	1,575,000	49,971	Good ..
Martin Creamery	Martin	V. J. Barnes		122,402	Fine ..
Moline Cooperative Creamery Co.	Moline	Moline Coop. Cre. Co.	2,364,814	109,604	Good ..
Osego Creamery Co.	Osego	Osego Creamery Co.		87,000	Good ..
Sanitary Milk Co's Skimming Station	Moline	Sanitary Milk Co.	2,794,918		Fair ..
Wayland Creamery	Wayland	F. S. Jankoski	1,949,516	98,419	Good ..
Arenac Co., November:					
D. M. Scott Creamery	Sterling	D. M. Scott		40,000	Good ..
Calhoun Co., November:					
Athens Creamery Co.	Athens	J. J. Snyder		103,000	Fair ..
Jackson City Cre. Co's Cream Station	Marshall	Jackson City Cre. Co.			Good ..
Jackson City Cre. Co's Cream Station	Albion	Jackson City Cre. Co.			Good ..
Milk Producers Co.	Battle Creek	F. W. Sullivan	2,575,000		Good ..
Raymond & Rice Milk Depot	Battle Creek	Raymond & Rice	1,000,000		Good ..
Towans Wayne Co. Cre. Co's Cre. Sta.	Albion	Towans Wa's Co. Cre. Co.			Good ..
Gladwin Co., November:					
Gladwin Butter Co.	Gladwin	J. M. Smith		90,000	Good ..
Wagarville Dairy Co.	Wagarville	Wellington Wagar		100,000	Good ..
Ionia Co., November:					
Portland Creamery Co.	Portland			80,000	Good ..
Towans Wayne Co. Cre. Cream Sta.	Portland	Towans Wa's Co. Cre. Co.			Poor ..
Iosco Co., November:					
Iosco Creamery Co.	Whittemore	M. Jensen		85,000	Good ..
Kalamazoo Co., November:					
Climax Creamery	Climax	Arthur Gingell			Good ..
Wm. Gibson Cream Station	Scotts	Wm. Gibson			Good ..
H. H. Snyder Cream Station	Climax	H. H. Snyder			Good ..
Kent Co., November:					
Boydland Creamery	Grand Rapids	J. F. Boydland		250,000	Good ..
Caledonia Cooperative Creamery Co.	Caledonia	Jacob Ruehs		210,000	Good ..
Sanitary Milk Co.	Grand Rapids	T. H. Goodspeed		300,000	Good ..
Macomb Co., November:					
Utica Milk Depot	Utica	Detroit Creamery Co.			Good ..
Utica Cooperative Creamery Co.	Utica	Utica Coop. Cre. Co.	3,180,450	220,000	Good ..
Monroe Co., November:					
Monroe Cheese & Butter Co.	Monroe	Monroe Ch'se & But. Co.	2,275,855	101,272	Good ..
Montcalm Co., November:					
Amble Creamery	Amble	John Witmer			Fine ..
Sheridan Creamery	Sheridan	Jack Dolan		70,000	Good ..
Spencer & Howes Creamery Station	Fenwick				
Ogemaw Co., November:					
Michigan Creamery Co's Cream Sta.	West Branch	Walker Bros.			Good ..
West Branch Creamery	West Branch	I. H. Jones		100,000	Good ..

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean	Clean	Clean	Clean		Clean	Clean	Fair	Clean	Good	Good	Good	94
Clean	Clean	Clean	Clean		Clean	Clean	Good	Clean	Good	Good	Good	93
Clean	Clean	Clean	Clean		Clean	Clean	Fair	Clean	Good	Good	Fair	92
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Good	Clean	Good	Good	Good	95
Clean												
Clean	Clean	Clean	Clean		Clean		Good	Clean	Good	Good	Good	93
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Good	Clean	Good	Good	Good	92
Clean	Clean	Clean	Clean		Clean	Clean	Good	Clean	Good	Good	Good	93
Clean	Clean	Clean	Clean		Clean	Clean	Fair	Clean	Good	Good	Good	91
Clean	Clean	Clean	Clean		Clean	Clean	Fair	Clean	Good	Good	Good	
Clean	Clean		Clean		Clean	Clean	Good	Clean	Good	Good	Fair	93
Good	Good			Good	Good		Good	Good	Good	Good		92
Clean	Fair				Clean		Bad	Clean	Good	Good		92
Clean												
Clean	Clean	Clean	Clean	Clean	Clean		Good	Clean	Good	Good	Good	91
Clean	Clean									Good	Good	
Good	Good				Fine		Good	Good	Good	Good		92
Good	Good				Good		Good	Good				92
Good	Good				Good		Good	Good	Good	Good		91
Fair												
Fine	Good			Good	Fine		Good	Good	Excel.	Good		92
Clean	Good				Clean		Good	Clean	Good	Fair		93
Clean												
Clean												
Good	Good				Good		Good	Fair	Good	Good		93
Good	Good			Good	Good		Good	Good	Good	Good		93
Good	Good			Good	Good		Good	Good	Good	Good		93
Clean	Good				Clean							
Clean	Clean	Clean	Clean		Clean	Clean	Good	Clean	Good	Good	Good	97
	Clean	Clean	Clean		Clean	Clean	Good	Clean	Good	Good	Good	95
Good	Good			Good	Good		Good	Good	Good	Good		92
Clean	Good				Fine		Good	Fine	Good	Good		92
Good												
Good					Good		Good	Good	Good			92

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surround- ings.
Osceola Co., November:					
Leroy Creamery Co.	Leroy	D. B. Ketchum		50,000	Good...
Washtenaw Co., November:					
Chelsea Cream Station	Chelsea	J. S. Cummings			Good...
Towars Wayne Co. Cre. Cream Sta.	Chelsea	Towars Wa'e Co. Cre. Co.			Good...
Towars Cream Station	Dexter	Towars Wa'e Co. Cre. Co.			Good...
Wayne Co., November:					
Canton Milk Depot	Canton	Detroit Creamery Co.			Good...
Inkster Milk Depot	Inkster	Detroit Creamery Co.			Good...
Plymouth Milk Depot	Plymouth	Detroit Creamery Co.			Good...
Wexford Co., November:					
Rudell Creamery Co.	Manton	S. F. Smith		100,000	Good...
Berrien Co., December:					
Dayton Creamery	Dayton	J. Jacobson	1,419,784		Good...
Galen Milk Condensary	Galen	J. Jacobson	3,215,000		Good...
St. Joseph Valley Creamery Co.	Buchanan	A. C. Roe	2,941,617		Good...
Three Oaks Creamery	Three Oaks	J. Jacobson			Good...
Calhoun Co., December:					
Maple City Creamery Co.	Albion	D. S. Birdsall			Good...
Cass Co., December:					
Dowagiac Creamery Co.	Dowagiac	J. S. Green		96,714	Good...
Grand Traverse Co., December:					
Traverse City Creamery	Traverse City	Wm. A. McCool		175,000	Good...
Genesee Co., December:					
Crouse & Parshall Dairy Products Co.	Fenton	D. M. Parshall			Good...
Davison Creamery	Davison	Shaw & Cooney			Fair...
Freeman Dairy Co.	Flint	Leonard Freeman			Good...
Montrose Home Creamery	Montrose	W. G. Herman		53,406	Fair...
Standard Butter Co.	Flushing	J. W. Kenney		108,000	Good...
Jackson Co., December:					
Parma Butter Co.	Parma	Jos. Helmer	4,865,406	288,000	Good...
Lapeer Co., December:					
Butler Cream Station	Imlay City	R. A. Butler			Fair...
Imlay City Creamery	Imlay City	W. Muir		190,412	Good...
Lapeer County Creamery	Lapeer	R. F. Frary		104,000	Good...
Lum Creamery	Lum	Geo. McNully		53,400	Good...
Manistee Co., December:					
Sanitary Milk Co. Cream Station	Copemish	A. L. Gleason		10,000	Good...
Swift & Co. Cream Station	Copemish	L. L. Milard		10,000	Good...
Muskegon Co., December:					
Dalton Creamery	Muskegon	E. J. Peterson		200,000	Good...
Holton Creamery Co.	Holton	John Nash		80,000	Good...

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good...	Fine...				Fair...		Poor...	Poor...	Good...	Fair...		90
Clean...	Good...											
Clean...												
Clean...												
	Good...			Clean...	Good...				Good...		Good...	
	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...		Good...	Good...	Good...	
Good...	Good...			Good...	Good...		Good...	Good...	Good...	Good...		92
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...		Good...	Good...	Fair...	
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...		Good...	Good...	Good...	
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	95
Clean...	Clean...				Clean...		Good...	Clean...	Good...	Good...		93
Clean...	Good...				Clean...		Good...	Clean...	Good...	Good...		93
	Good...			Good...	Good...		Fair...	Good...	Fair...	Fair...		92
Clean...	Good...				Clean...		Good...	Clean...	Good...	Good...		93
Clean...	Good...				Clean...		Fair...	Clean...	Good...	Good...		92
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...		Good...	Clean...	Good...	Good...	Good...	
Clean...	Clean...				Clean...		Fair...	Clean...	Good...	Good...		91
Clean...	Clean...				Clean...		Good...	Clean...	Good...	Good...		92
Clean...	Clean...				Clean...							
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...	Good...	Good...	Good...	Good...	96
Clean...												
Clean...	Clean...			Clean...	Clean...		Good...	Clean...	Good...	Good...		91
Clean...	Clean...			Clean...	Clean...		Good...	Clean...	Good...	Good...		93
Clean...				Clean...	Clean...		Good...	Clean...	Good...	Good...		92
Good...	Good...			Good...	Good...		Good...	Good...	Good...			91
Good...	Good...		Fair...		Fine...	Good...	Good...	Good...	Good...	Good...	Good...	94

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surroundings.
Oakland Co., December:					
Central Mich. Produce Co's Cre. Sta.	Holly.	Central Mich. Pro. Co.			Bad...
Clarenceville Milk Depot.	Clarenceville.	Towars W's Co. Cre. Co.			Good...
Crouse & Parshall Cream Station.	Holly.	Crouse & Parshall.			Fair...
Davisburg Cream Station.	Davisburg.	Towars Creamery Co.			Good...
Towar's Cream Station.	Holly.	Towars Creamery Co.			Fair...
Oscoda Co., December:					
Reed City Butter Co.	Reed City.	Roy E. Smith.		50,000	Good...
Saginaw Co., December:					
Elgin Butter Co.	Laytons Corners.	A. Burke.		63,412	Good...
Michigan Creamery Co.	Freeland.	S. C. Hess.			Good...
Standard Butter Co's Cream Station.	Burt.	Standard Butter Co.			Good...
Vasold Bros. Creamery.	Freeland.	Vasold Bros.		80,000	Good...
St. Clair Co., December:					
Freeman Dairy Co's Cream Station.	Capac.	Freeman Dairy Co.			Good...
Medina County Cre. Co's Cream Sta.	Capac.	Medina Co. Cre. Co.			Fair...
Van Buren Co., December:					
Decatur Creamery Co.	Decatur.	M. S. Thomas.		61,412	Good...
Wayne Co., December:					
Bell Branch Milk Depot.	Bell Branch.	John Schlaff.			Good...

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese, pounds.	Style.
Bay Co., November:					
Dixie Bros.	Pinconning.	Dixie Bros.			Soft Mich.
Fraser Cheese Co.	Pinconning.	J. H. Coggins.			Soft Mich.
Oakland Co., December:					
Farmington Cheese Factory.	Farmington.	F. M. Warner.	2,324,604		
Powers Cheese Co.	Powers.	F. M. Warner.	1,412,096	154,040	Mich. Soft...
Iosco Co., December:					
Hale Cheese Co.	Hale.	John Cary.	600,000	60,000	Soft Mich. and Cheddar.

CREAMERIES.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean												
Clean										Good	Good	
Clean												
Clean												
Good	Good				Good		Good	Good	Good			91
Clean	Clean				Clean		Fair	Clean	Good	Good		91
Clean												
Good	Good			Good	Good		Good	Poor	Good			92
Clean												
Clean												
Clean	Good				Clean		Good	Clean	Good	Good		93

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses, gaug.	Curd mill.	Whey tank.	Rennet test.	Boiler.		
W. A. Grimm...	Good...	2 good...	1		Good...		8 H. P.	Fair...	
H. J. Koboldt...	Good...	2 fine...	2		Fair...		8 H. P.	Good...	Artificial.
J. Meinhaus...	Good...	2 clean...	1		Clean...	Mars' H.	15 H. P.	Good...	
B. Dend...	Good...	2 clean...	1		Clean...	Mars' H.	10 H. P.	Good...	
John Cary...	Good...	1 good...	1	Pohl...	Good...			Fair...	

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk	Daily production of milk in pounds.	Breed.
Ionia Co., November:						
Frank Young.....	Ionia.....	Self.....	4	2	25	Graded.....
Arenac Co., December:						
John Black.....	Standish.....	Self.....	6	5	120	Graded.....
Grand Traverse Co., December:						
Adolph Brush.....	Traverse City.....	A. W. Wiedoeft.....	15	10	220	.....
I. Chance.....	Traverse City.....	A. W. Wiedoeft.....	6	3	60	Graded.....
J. W. Hart.....	Traverse City.....	A. W. Wiedoeft.....	10	8	180	Graded.....
Frank Kubeah.....	Traverse City.....	A. W. Wiedoeft.....	8	6	80	Graded.....
James Lively.....	Traverse City.....	J. A. Witkop.....	6	4	80	Graded.....
Owen C. Merrill.....	Traverse City.....	Self.....	4	4	40	Graded.....
Wm. A. McCool.....	Traverse City.....	Self.....	8	6	100	Jersey.....
Stanley McNulty.....	Traverse City.....	Self.....	8	5	120	Graded.....
Geo. Sachtleben.....	Traverse City.....	Self.....	13	10	200	Holsteins.....
Joseph Thomas.....	Traverse City.....	Self.....	14	12	160	Jerseys.....
J. A. Witkop.....	Traverse City.....	Self.....	9	8	160	Graded.....
C. Worm.....	Traverse City.....	Joseph Thomas.....	6	5	100	Holsteins.....
Gratiot Co., December:						
Martin Partee.....	Breckenridge.....	Self.....	10	7	160	Graded.....
St. Clair Co., December:						
Joseph Bates.....	Port Huron.....	Frank Bates.....	10	9	.....	Mixed.....
Fred Beach.....	Port Huron.....	Frank Bates.....	28	12	.....	Mixed.....
Ira Chase.....	Port Huron.....	Wm. Gaieron.....	32	14	.....	Mixed.....
Mrs. M. L. Clark.....	Port Huron.....	Geo. French.....	5	5	.....	Mixed.....
Geo. H. French.....	Port Huron.....	Self.....	18	12	.....	Mixed.....
Hopps & Son.....	Port Huron.....	Geo. French.....	19	18	.....	Mixed.....
Port Huron Creamery Co.....	Port Huron.....	Geo. French.....	10	9	.....	Mixed.....
Charles Simpson.....	Port Huron.....	Port Huron Creamery Co.....	19	15	.....	Mixed.....
Dennison Smith.....	Port Huron.....	Hotel Harrington.....	12	7	.....	Mixed.....
Fred Smith.....	Port Huron.....	Frank Keloh.....	8	4	.....	Mixed.....
Frank Socha.....	Port Huron.....	Fred Beach.....	7	6	.....	Mixed.....
P. M. Stein.....	Port Huron.....	Henry Stein.....	20	15	.....	Mixed.....
Chas. Stevenson.....	Smith Creek.....	Will Simpson.....	9	7	.....	Mixed.....
Albert Stevenson.....	Smith Creek.....	Will Simpson.....	21	16	.....	Mixed.....

OF DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Cornfodder, hay, corn.....	No.....	Door.....	No.....	No.....	Tubular well.
Silage, cornfodder, hay.....	Fair.....	Windows, doors.....	Fair.....	Fair.....	Tubular well.
Cornfodder, ensilage, bran.....	Fine.....	Hay chute.....	Yes.....	Fine.....	Tubular well.
Corn, ensilage, corn stover.....	Fair.....	Windows.....	Poor.....	Fair.....	Tubular well.
Alfalfa hay, ensilage, corn.....	Yes.....	Windows.....	Fair.....	Yes.....	Spring.
Ensilage, cornfodder.....	Yes.....	Windows.....	Yes.....	Yes.....	Spring.
Cornfodder, ensilage.....	Yes.....	Windows.....	Fair.....	Yes.....	Spring.
Ensilage, cornfodder.....	Fair.....	Hay chute.....	No.....	Fair.....	Spring.
Clover, ensilage, bran.....	Fair.....	Hay chute.....	Yes.....	Fair.....	Tubular well.
Hay, cornfodder.....	Fair.....	Windows.....	No.....	Fair.....	Tubular well.
Ensilage, mixed hay, corn.....	Yes.....	Windows.....	Yes.....	Yes.....	Tubular well.
Ensilage, straw, bran.....	No.....	Windows, hay chute.....	Poor.....	No.....	Tubular well.
Cornfodder, hay, bran, corn.....	Yes.....	Windows.....	Fair.....	Yes.....	Spring.
Hay, cornstover, roots, corn.....	Yes.....	Ventilators.....	Yes.....	Yes.....	Tubular well.
Hay, corn, ensilage, oats.....	Fair.....	Windows.....	Fair.....	Fair.....	Tubular.
Fodder, hay, cornmeal, gluten.....	Yes.....	Windows.....	Fair.....	Yes.....	Open well.
Ensilage, pea meal, bran.....	Yes.....	Ventilators.....	Fair.....	No.....	Spring.
Ensilage, straw, middlings.....	Medium.....	Windows.....	Fair.....	No.....	Open well.
Hay, fodder, bran, corn.....	Medium.....	Windows.....	No.....	No.....	.....
Hay, ensilage, pea meal.....	Yes.....	Windows.....	No.....	Yes.....	.....
Ensilage, hay, gluten, bran.....	Medium.....	Ventilators.....	Fair.....	No.....	Open well.
Hay, bran, corn meal, pea meal.....	Yes.....	Windows.....	Yes.....	Yes.....	Open well.
Ensilage, hay, fodder, bran.....	Yes.....	Ventilators.....	Fair.....	Yes.....	Tubular well.
Hay, fodder, cottonseed meal.....	Medium.....	Door.....	No.....	Yes.....	Open well.
Hay, fodder, bran, cottonseed.....	Medium.....	Windows.....	No.....	Yes.....	Tubular well.
Fodder, hay, gluten, bran.....	Yes.....	Windows.....	No.....	Yes.....	Open well.
Ensilage, hay, pea meal.....	Yes.....	Windows.....	Yes.....	Yes.....	Tubular well.
Ensilage, hay, straw, bran.....	Yes.....	Ventilators.....	Yes.....	Yes.....	Open well.
Ensilage, hay, pea meal, bran.....	Yes.....	Windows.....	Yes.....	Yes.....	Open well.

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Battle Creek, November:											
A. Hadley.....	65	8	75	55	32	235	Poor.....				
Calumet, November:											
Meli Bosanich.....	85	70	70	80	70	375	Poor.....				
Frank Clerc.....	90	85	85	90	85	435	Medium.....	4.2	31.5	12.915	8.715
James Colombo.....	88	65	70	80	65	368	Poor.....				
John Koskela.....	90	65	90	90	95	430	Medium.....	4.4	32	13.28	9.88
Oscar Kovineimi.....	85	90	80	90	70	415	Medium.....				
Jno. Machowski.....	88	70	70	80	65	373	Poor.....	4.6	31.5	13.395	8.795
S. Michaelson.....	85	75	75	80	65	380	Poor.....	4.4	33	13.53	8.25
Abram Olafson.....	95	95	80	100	80	450	Good.....	3.8	30	12.06	8.26
Martin Ruski.....	85	75	80	90	80	410	Medium.....	3.8	32	13.52	9.76
H. Turreanne.....	90	95	90	95	100	470	Good.....	3.4	31	11.83	8.43
Chas. Waisenen.....	85	90	75	95	75	420	Medium.....				
Demmon, December:											
Jacob Manly.....	85	85	90	95	100	455	Good.....	5	33	14.25	9.25
Laurium, December:											
Eric Korbi.....	85	75	85	85	90	420	Medium.....	4.4	32	13.28	9.88
C. Landstrom.....	90	80	90	90	90	440	Medium.....	3.4	31.5	11.875	8.475
H. Leviaka.....	90	90	85	95	100	460	Good.....	4	33	13.35	9.05
Gust Lungi.....	85	75	80	90	90	420	Medium.....	3.6	30.5	11.945	8.345
E. J. Moyle.....	85	85	75	90	85	420	Medium.....				
Eric Nicoli.....	85	80	75	90	90	420	Medium.....	5	30	13.5	8.5
Nickolas Oysti.....	90	85	80	90	90	435	Medium.....	4.2	31	12.79	8.59
Peter Pepin.....	85	80	80	85	85	415	Medium.....	5	33	14.25	9.25
Robt. Saari.....	80	70	75	85	90	400	Medium.....	4	30.5	12.425	8.425
Jos. Tomzeek.....	80	75	75	85	80	395	Poor.....				
C. Trevarrow.....	80	70	75	90	85	400	Medium.....				
Henry Trythal.....	85	75	90	95	90	435	Medium.....				
Sturgis, December:											
C. H. Capman.....	66	35	78	55	72	306	Poor.....				
Joel Fields.....	84	77	78	76	75	390	Poor.....				
H. W. Kelly.....	68	67	78	75	87	375	Poor.....				
Dan Shaaf.....	84	68	78	75	90	395	Poor.....				

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1914

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING.

JAMES W. HELME.....COMMISSIONER
FERN L. SHANNON.....STATE ANALYST
M. J. SMITHCHIEF CLERK
A. R. TODD.....DRUG ANALYST



Rear row standing, left to right: Inspector C. V. Jones, Mrs. Fraser, Inspector Geo. H. Brownell, Inspector Chas. R. Webb, Inspector D. J. Farrell, Mrs. James E. Helber, Inspector James E. Helber, Mrs. R. E. Woodruff, Inspector R. E. Woodruff, Inspector H. D. Wendy, Anna Smith, Gladys Dame, Mrs. D. A. Nichols, Inspector D. A. Nichols, Drug Inspector M. A. Jones, Inspector A. H. Balke, Assistant Chemist L. H. Van Wornor, Chief Clerk M. J. Smith, Mrs. James W. Helme, Commissioner James W. Helme, Mrs. W. C. Geagley, Drug Analyst A. R. Todd, Mrs. M. J. Smith, Chief F. L. Shannon, Ida Harris, Inspector Henry F. Collins, Mrs. L. H. Van Wornor, Deputy Commissioner Burr B. Lincoln, Inspector John T. Rowe, Mrs. C. A. Bugbee, Drug Inspector C. A. Bugbee, Inspector W. J. Mickel, Mrs. W. J. Mickel.

BUCKWHEAT CAKES AND MAPLE SYRUP.

BY J. W. HELME.

When our forefathers settled Michigan, there were two things that were both convenient and cheap. The fertile virgin soil needed some crop that was a voracious feeder to subdue it and nothing quite filled the bill in this respect like buckwheat.

Abundant forests of Hard Maple were on every hand to tap and an abundance of cheap fuel made maple syrup obtained from maple sap the cheapest sugar to apply to cakes made from the buckwheat flour.

The present generation thus inherited a taste for those delicious buckwheat cakes and maple syrup from our ancestors.

But times have changed. The maple forests have been largely cut down for lumber, fuel is scarce and high-priced and more profitable crops have superseded buckwheat.

As a result pure Buckwheat Flour and maple syrup have become scarce and high. Numerous imitations have sprung up and if the consumer would revel in the old time luxury of buckwheat cakes and maple syrup, he must be on his guard.

Fortunately Michigan Food Laws still make possible the obtainance of this delicacy of our forefathers.

Buckwheat flour is generally adulterated with wheat flour, but if so adulterated the sack must be labeled "Buckwheat Flour Compound." If so labeled the sack may contain only 10% buckwheat. Look sharp for the sack that has printed on it the words "Buckwheat Flour" in large Blue or Red letters and the word "compound" is printed below in small letters with an inconspicuous color. If a sack reads "Pure Buckwheat Flour" without the word "compound," it is probably pure. You can mix in common flour to suit yourself much cheaper than you can buy the compound ready mixed.

The law requires every container of syrup to be labeled with the percentage of cane and maple therein. If it is labeled "Maple Syrup" without these percentages, it is probably pure maple. Many imitations are on the market; they consist generally of pure cane syrup flavored and colored to imitate maple syrup. If you want this cheap syrup, you can make it yourself cheaper than you can buy it. The following letter recently received at this office will tell you how. The spelling is original with the writer.

Dear Sir:

As I am about to make a formley to take place of maple syrup, and make it for sale I have got a formley that you cannot tell from the pur maple Now then what I want to know is this what

have I got to do in order to keep geten any trubly Or Infringen on the law

Formley

7 lbs of granulated shugar

2 Quarts of boild watter

1 Oz of Henderson, Extract of maple

yours Truly,

It is not possible to obtain any "extract" or "Flavor" from maple sugar or syrup. All so called "maple extracts" are made from various drugs or by boiling up corn cobs and hickory bark. If you want Pure Buckwheat Cakes and Maple Syrup, watch the labels on the sack and bottles.

THE OLD HEN AND COLD STORAGE.

BY J. W. HELME.

The high price of Hen fruit has aroused a Nation's attention. The Housewives' Leagues are boycotting the old Hen's famous product to cut down the price. To understand the situation one must study the habits of the old Hen.

In February the hens of the country begin their annual output of eggs for Gin Fizzes and other uses. By April the hen has her egg factory working on full time and eggs are plenty and cheap. At this time the surplus cheap eggs are placed in cold storage. As summer advances the old hen's egg factory begins to work on short time until finally about October 1st, the factory is closed down for the winter months.

The old hen has a reason for this. Like every female the old hen insists on having a new dress once a year. Unlike mankind, the old Rooster has not been educated to furnish the old hen a new dress so she has to do it herself. From Oct. 1st to Jan. 1st. the old hen uses all the angleworms, bugs and vegetables from the neighbor's garden, which went into eggs in the springtime, to make her a new dress for the Easter Holidays. As a result the price of eggs goes out of sight.

Enter. The villain of the play, the cold storage man.

Now cold storage has its uses and its abuses. As an agent in transferring our surplus of food products from times of plenty to times of scarcity, the cold storage man is a benefactor to the human race. But when the time of scarcity arrives and he refuses to put his products on the market at a reasonable profit, but holds them off and by reason of his monopoly exacts exorbitant prices from the consumer, cold storage becomes an abuse.

Laws should be passed limiting the time that any product should be in cold storage. Pennsylvania has such a law. Under its provisions, cold storage men are compelled to market April stored eggs in December at the latest, unless the State Dairy & Food Commissioner decides otherwise. Cold storage men in that state cannot form a monopoly and mulct the consumer as the Dairy & Food Commissioner can force their product upon the market.

The writer endeavored to have the Michigan legislature pass a similar law at its last session. It was defeated in the House by the votes of the following members: Representative Bierd, Burke, Burns, Catlin, Chamberlain, Clark, Crapser, Croll, Dunn, Edwards, Farmer, Flowers, Follett, Foote, Griggs, Henry, Hicks, Hinkley, Holcomb, Jakway, Jensen, Jerome, Koehler, McMillan, McNitt, Middleton, Moore, Morgan, Murphy, Nank, Neller, Odell, Peckham, Richardson, Schaeffer, Skeels, Stevens, Warner, Wilcox and Wood. Had this law been passed any cold storage egg monopoly could have been smashed by this department.

It is to be hoped that public sentiment may be so aroused so that the next session of the legislature will see a law enacted to prevent abuses in the cold storing of food products.

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of January and February, 1914:

Ada, Albion, Alma, Ann Arbor, Bark River, Battle Creek, Bay City, Beaverton, Bellevue, Breckenridge, Canton, Carson City, Charlotte, Clare, Clio, Coldwater, Coleman, Concord, Copper City, Deckerville, Detroit, DeWitt, Dollar Bay, Eaton Rapids, Elm Hall, Felch, Ferry, Flint, Foster City, Gera, Goodrich, Gladstone, Grand Haven, Grand Ledge, Grand Rapids, Grandville, Hancock, Hardwood, Hart, Hastings, Highland Park, Hillsdale, Holland, Holton, Howell, Inlay City, Ionia, Ithaca, Jackson, Kalamazoo, LaBranche, Lake Linden, Lansing, Lapeer, Lowell, Ludington, Manistee, Manistique, Marine City, Marshall, Mason, Mears, Menominee, Middleville, Milan, Millington, Mt. Clemens, Mulliken, Munising, Muskegon, New Baltimore, North Escanaba, Oakwood, Owosso, Pentwater, Petoskey, Pigeon, Pinconning, Plymouth, Pontiac, Port Huron, Portland, Prescott, Reese, Rose City, Saginaw, Sault Ste. Marie, Shelby, Sturgis, Tekonsha, Thompson, Three Rivers, Traverse City, Turner, Union City, Vassar, Washington, Wayne, Wells, Whitehall, White Pigeon, Whitney, Wyandotte, Ypsilanti, Zeeland.

PROSECUTIONS.

Since beginning of fiscal year July 1, 1913.

Cases pending January 1, 1914	31
Cases commenced since said date	22

CASES DISPOSED OF.

Before examining magistrates:

Defendants bound over	5
Defendants discharged	5

In trial courts:

Defendants convicted	27
Defendants acquitted	3
Cases pending March 1, 1914	18

In the case pending in the circuit court, county of Kalamazoo, against William K. Pickard charged with the sale of adulterated maple sugar, February 16 defendant entered a plea of guilty. Sentence suspended.

In the case pending in the circuit court, county of Jackson, against F. E. Russell charged with selling oleomargarine without displaying legal sign. Case dismissed.

In the case pending in circuit court, county of Oakland, against N. D. Solon, charged with serving oleomargarine in restaurant without displaying sign. Defendant entered a plea of guilty. Sentence deferred.

In the case pending in circuit court, county of Calhoun, against Raymond Schoder and Harry Schoder charged with untrue, deceptive and misleading advertising, February 13, defendants were convicted. Stay of proceedings taken for appeal to the supreme court.

In the case pending in circuit court, county of Osceola, against James Campbell charged with selling lard compound without stamping, defendant entered a plea of guilty and was fined \$25.

In the case pending in circuit court, county of Osceola, against D. R. Ketchum charged with selling lard compound without stamping, defendant entered a plea of guilty. Fined \$25.

In the case pending in police court, city of Muskegon, against Otto Lunow charged with using excessive cereal in the manufacture of sausage. Case dismissed.

In the case pending in the circuit court, county of Calhoun, against V. P. Skinner and Andrew Wilson, charged with the sale of decomposed chickens, February 2, defendants entered pleas of guilty and were fined \$25 each.

In the case pending in recorder's court, city of Detroit, against John Eichhorn, charged with using sulphites in the manufacture of Hamburg Steak, January 20 defendant entered a plea of guilty and was fined \$25.

In the case pending in circuit court, county of Albion, against Chris Bauer, charged with using sulphites in the manufacture of Hamburg Steak. January 12, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in police court, city of Bay City, against John Rinz, charged with using sulphites in the manufacture of Hamburg Steak. February 24, defendant discharged.

In the case pending in circuit court, county of Calhoun, against M. E. Talmage, charged with using sulphites in the manufacture of Hamburg Steak. January 12, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in justice court, city of Houghton, against Ed. Niemeyer charged with selling oysters containing excessive moisture. January 6, defendant bound over to circuit court for trial. January 26, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in justice court, city of Lansing, against Leo Larabee, charged with selling lard compound without stamping same. Defendant waived examination and was bound over to circuit court for trial. January 29, defendant acquitted.

In the case pending in circuit court, county of Ingham, against John M. & Harry Bopp, proprietors of the Chicago Market, charged with selling lard compound without stamping, defendants entered a plea of guilty. Fined \$25.

In the case pending in circuit court, county of Ingham, against Elmer Clapham, charged with selling lard compound without stamping, defendant entered a plea of guilty. Fined \$25.

In the case pending in circuit court, county of Ingham, against O. La Verne Stone, charged with selling lard compound without stamping, January 29 defendant was acquitted.

In the case pending in justice court, city of Lansing, against Morgan C. Saunders, charged with selling lard compound without stamping, January 16 case dismissed.

In the case pending in justice court, city of Lansing, against George Decke charged with selling lard compound without stamping, January 16 case dismissed.

In the case pending in justice court, city of Battle Creek, against Del Young, charged with the sale of insanitary milk, January 9, defendant acquitted.

In the case pending in police court, city of Detroit, against Thos. Faust, charged with selling oleomargarine artificially colored, January 20 defendant bound over to recorder's court for trial. February 18, defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made January 6 in justice court, city of Traverse City, against Vandelin Stanek, charged with using sulphites in the manufacture of Hamburg Steak. January 7, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made January 8, in justice court, city of Manistee, against Edmund Kieling, charged with using sulphites in the manufacture of Hamburg Steak. January 9, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made January 9, in justice court, city of Manistee, against Anton Janecki, charged with using sulphites in the manufacture of Hamburg Steak. January 9, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made January 9, in justice court, city of Manistee, against Joseph Waal, charged with using sulphites in the manufacture of Hamburg Steak. January 9, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made January 9, in justice court, city of Manistee, against Anton Schleif, charged with using sulphites in the manufacture of Hamburg Steak. January 9, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made January 12, in justice court, city of Gladstone, against Clarence E. Stearn, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made January 12, in justice court, city of Gladstone, against Geo. W. Green, charged with selling watered milk. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made January 13, in justice court, city of Adrian, against Chas Smith, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made January 26, in justice court, city of Sturgis, against Fred English charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made January 28, in justice court, city of St. Louis,

against Geo. Needham, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made January 28, in justice court, city of St. Louis, against Wm. Bobier of Breckenridge, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15.

Complaint was made February 2, in justice court, village of Ontonagon, against Joseph Burton, charged with using sulphites in the manufacture of Hamburg Steak. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made February 5, in police court, city of Detroit, against W. S. Carroll, charged with selling lard compound without stamping. February 20, defendant bound over to recorder's court for trial. Case pending.

Complaint was made February 13, in justice court, city of Ann Arbor, against Theo. Kluck charged with selling watered milk. February 16, defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made February 13, in justice court, city of Sault Ste. Marie against Chas. Marion charged with selling renovated butter without stamping same. Case pending.

Complaint was made February 16, in justice court of Lake Linden, against T. J. Hennes, charged with selling Hamburg Steak containing sulphites. February 17, defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made February 16, in police court, city of Detroit, against Chas. W. Rodgers, charged with selling colored oleomargarine. February 24, defendant waived examination and was bound over to the recorders court for trial. Case pending.

Complaint was made February 20, in municipal court, city of Kalamazoo against Peter Sliter, charged with using sulphites in the manufacture of Hamburg Steak. Case pending.

Complaint was made February 26, in justice court, city of Hillsdale, against Wm. H. Croose, charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made February 26 in justice court, city of Hillsdale, against Alfred J. Colvin, charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made February 26 in justice court, city of Hillsdale, against George Gavaris, charged with selling adulterated milk. Case pending.

Complaint was made February 28 in justice court, city of Hancock, against Dan A. Holland, charged with selling sausage containing an excessive amount of cereal. Case pending.

March 1, 1914.

Hon. James W. Helme, State Dairy & Food Commissioner, Lansing, Michigan:

Dear Sir—I herewith hand you the report of the work done in the laboratory during the months of January and February, 1914. A total of 254 samples were examined, 95 of which were found to be adulterated, misbranded or formed the part of an illegal sale.

During these two months the first sample of canned goods which proved to be short in weight and thereby in violation of the Food Law, passed through our hands. A sample of Lakesville Canned Tomatoes, put up by George C. Insley, Lakesville, Md., was submitted to the laboratory. The can was labeled "Contents weigh two pounds or over." An examination showed that the above statements were false and misleading and instead of weighing two pounds or over as stated, the contents weighed but a little over one pound.

Under the heading of "Eggs" in the appended report you will find a report on a sample of Frozen Eggs. This sample was secured by an inspector in Detroit from the Detroit Egg Biscuit Company who were using this class of eggs in the manufacture of their products. The use of frozen eggs in a food product is not to be condemned, as some might think, merely because they are frozen. It has been shown by the Federal Government that under proper conditions a very good article of food can be prepared with good frozen eggs, but the tendency among certain manufacturers is to break and freeze those eggs which have become so bad that it would be impossible to keep them otherwise. Such eggs when broken into a can and then frozen solid do not appear or smell bad, but when they are thawed out the odor of rotten eggs is at once apparent. The sample referred to above while still in a frozen condition and from all physical tests, seemed O. K., but a bacteriological examination showed it to contain about 24,000,000 bacteria per cubic centimeter, 10,000,000 of which were organisms of the B. Coli type, thereby indicating that the eggs were filthy and decomposed and unfit for human consumption.

Attention was directed, in the last bulletin, to the inspection the Department made on flavoring preparations. 58 samples were reported in a previous report, 9 of which were found not to comply with the law. 40 samples are reported herewith, 7 of which are illegal. These preparations consisted chiefly of vanilla and lemon extracts, although a number of extracts of Almond, Peppermint, Rose, Cinnamon, etc., were examined. The largest number of extracts that were condemned were lemon extracts, the vanilla extracts submitted being of many different grades but all pure under the law.

The systematic inspection of milk condensing plants was continued at the plant in Jackson. One of the members of the laboratory staff accompanied the inspectors and made preliminary tests on about 300 samples of milk, sending only those to the laboratory for final analysis which were at all suspicious. 77 samples in all were examined in the laboratory, 32 of which were condemned. 21 of the condemned samples

were from Jackson. The majority of them contained added water as the appended report will show.

Forty-two samples of sausage were examined during the two months, 25 of these were found not to comply with the sausage law. Eight of these were condemned for the sole reason that they contained cereal, but no statement of the fact appeared either on the product itself or on the label of the package in which they were sold. Sixteen of the samples were condemned for the above reason and in addition because they contained more than the 2% of cereal allowed by the law. The appended report shows that they contained from 2.51% to 11.31% cereal.

Yours respectfully,

F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Buckwheat flour.....	2	2	0
Butter.....	8	6	2
Cakelene.....	1	0	1
Canned fruit.....	1	1	0
Canned vegetables.....	6	2	4
Cream.....	22	22	0
Eggs.....	1	0	1
Evaporated milk.....	1	0	1
Flavoring preparations.....	40	33	7
Hamburg steak.....	10	6	4
Health coffee.....	1	1	0
Jelly, preserves, etc.....	5	4	1
Lard and lard compounds.....	12	9	3
Linseed oil.....	2	0	2
Milk.....	77	45	32
Miscellaneous.....	4	4	0
Oleomargarine.....	8	0	8
Oysters.....	1	1	0
Preservatives.....	2	2	0
Rice.....	1	1	0
Sausage.....	42	17	25
Vinegar.....	5	3	2
Syrups.....	2	2	0
Totals.....	254	161	93

ANALYSES OF SAMPLES.

BUTTER.

No. 28873, G-1029. Sample of "butter" procured from lunch counter of Geo. Roosen, Ontonagon. Sample is oleomargarine. No sign displayed.

No. 29237, G-1067. Sample of butter procured from Chas. Marion, Sault Ste. Marie. Product is renovated butter. Package not stamped.

CAKELENE.

No. 28807, E-98. Sample of "cakelene" manufactured by Bear Bros., Chicago, Ill., and procured from Geo. E. Bayley, Lansing. Colored with coal tar dye.

CANNED VEGETABLES.

No. 28894, I-202. Sample of Barton Brand Truffles Brossees sold by James P. Smith & Co., Chicago, and procured from Chas. Wellman, Port Huron. Misbranded in that the manufacturer's name and address is not stated on the label.

No. 28895, I-203. Sample of Robert Brand Mushrooms sold by James P. Smith & Co., Chicago, and procured from Chas. Wellman, Port Huron. Misbranded in that the manufacturer's name and address is not stated on the label.

No. 28896, I-204. Sample of Barton Brand Peas sold by James P. Smith & Co., Chicago, and procured from Chas. Wellman, Port Huron. Misbranded in that the manufacturer's name and address is not stated on the label.

No. 29321. Sample of Lakesville Canned Tomatoes put up by Geo. C. Insley, Lakesville, Md., handled by the Musselman Grocer Co., Traverse City. Misbranded in that the weight is incorrectly stated.

EGGS.

No. 29062, U-57. Sample of Frozen "eggs" put up by F. C. Schnurstein & Co., 802 Fisher Ave., Detroit, and procured from Detroit Egg Biscuit Co., 2817 East Grand Boulevard, Detroit. Sample consists wholly or in part of a decomposed, putrid, infected, tainted or rotten animal substance.

EVAPORATED MILK.

No. 28893, I-197. Sample of Every Day Brand evaporated milk manufactured by the John Wildi Evaporated Milk Co., Columbus, Ohio, and handled by the National Grocer Co., Port Huron. Misbranded in that the formula for diluting is not given on label.

FLAVORING PREPARATIONS.

No. 28296, V-38. Sample of "Special Brand Pure Vanilla Extract" manufactured by Schorndorfer & Eberhard Co., Cleveland, Ohio, and procured from Fred Schandt, Detroit. Not a pure vanilla extract.

No. 28483, E-85. Sample of Lemon Flavor manufactured by the Moore

Co., Temperance, and procured from H. J. Sweet, Howell. Not a true extract of lemon.

No. 28518, I-178. Sample of Lemon Extract manufactured by Dr. J. A. Drake, Fort Wayne, Ind., and procured from H. D. Pegg, Morenci. Not a true extract of lemon.

No. 28792, E-88. Sample of "Extract of Lemon for Bakers" put up by Northrup, Robertson & Carrier Co., Lansing, and procured from Geo. E. Bayley, Lansing. Not a true extract of lemon.

No. 28861, V-43. Sample of "Special Brand Pure Lemon Extract" manufactured by Schorndorfer & Eberhard Co., Cleveland, Ohio, and procured from Fred Schandt, Detroit. Not true lemon extract.

No. 28924, E-99. Sample of Lemon Flavor manufactured by the Moore Co., Temperance, and procured from H. J. Sweet, Howell. Not a true lemon extract.

No. 29342, F-149. Sample of Imperial Vanilla & Vanillin manufactured by the Imperial Vanilla Co., Chicago, and procured from H. G. Price, Ludington. Product is imitation vanilla not properly labeled as such.

HAMBURG STEAK.

No. 28874, G-1030. Sample of Hamburg Steak manufactured and sold by Joseph Burton, Ontonagon. Product contains added sulphurous acid or salts thereof.

No. 28883, G-1038. Sample of Hamburg Steak manufactured and sold by L. Hennes & Co., Lake Linden. Product contains added sulphurous acid or salts thereof.

No. 28970, G-1057. Sample of Hamburg Steak manufactured and sold by Frank Peterson Co., Manistique. Product contains added sulphurous acid or salts thereof.

No. 29111, Y-169. Sample of Hamburg Steak manufactured and sold by M. W. Kunding, 1522 S. Michigan, Saginaw. Product contains added sulphurous acid or salts thereof.

JELLIES.

No. 28790, E-86. Sample of Banner brand Imitation Fruit Jelly manufactured by the Lamon-Gohl Syrup Co., Chicago, Ill., and sold by Bear Bros., Chicago. Product is imitation fruit jelly artificially colored. Not salable.

LARD COMPOUNDS.

No. 28971, U-56. Sample of lard compound procured from W. S. Carroll, 225 Brush St., Detroit. Package not stamped.

No. 29425, F-152. Sample of lard compound sold by Oscar Balin, Ludington. Package not stamped.

No. 29427, F-154. Sample of lard compound sold by Elmer Abramson, Ludington. Package not stamped.

LINSEED OIL.

No. 28850. Unofficial sample of raw linseed oil. Adulterated with a petroleum product.

No. 29071. Unofficial sample of linseed oil. Not pure linseed oil.

MILK.

No. 28930. Unofficial sample of milk. Contains a large amount of added water.

No. 28950, P-1066. Sample of milk procured from J. Richmond, Jackson. Below standard in specific gravity, butter fat and total solids. Contains about 40% added water.

No. 28952, P-1068. Sample of milk procured from E. Tripp, Jackson. Below standard in specific gravity and total solids. Contains about 24% added water.

No. 28953, P-1069. Sample of milk procured from C. A. Tripp, Jackson. Below standard in specific gravity, butter fat and total solids. Contains about 52% added water.

No. 28954, P-1070. Sample of milk procured from W. Daniels, Jackson. Below standard in specific gravity, and total solids. Contains about 15% added water.

No. 28956, P-1072. Sample of milk procured from B. Killgallin, Jackson. Below standard in specific gravity and total solids. Contains about 16% added water.

No. 28957, P-1073. Sample of milk procured from Geo. Ford, Jackson. Below standard in specific gravity and total solids. Contains about 18% added water.

No. 28963, P-1074. Sample of milk procured from Tom. Donley, Leoni. Below standard in specific gravity and total solids. Contains about 17% added water.

No. 28964, P-1075. Sample of milk procured from Jay Richmond, Jackson. Below standard in specific gravity, butter fat and total solids. Contains about 39% added water.

No. 28965, P-1076. Sample of milk procured from F. A. Coleman, Mason. Below standard in specific gravity and total solids. Contains about 17% added water.

No. 28890, S-31. Sample of milk procured from Chas. Smith, Jasper. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 28996, I-210. Sample of milk procured from Theo. Kluck, Ann Arbor R. F. D. No. 5. Below standard in specific gravity, total solids and butter fat. Contains about 13% added water.

No. 29021, N-37. Sample of milk produced by Ed. Hemmeke, Holland R. F. D. Below standard in specific gravity, butter fat and total solids. Contains about 25% added water.

No. 29024, N-40. Sample of milk produced by H. W. Eleman, Holland R. F. D. Below standard in specific gravity and total solids. Contains about 16% added water.

No. 29026, P-1080. Sample of milk procured from J. E. Tanswell, Jackson. Below standard in specific gravity and total solids. Contains about 12% added water.

No. 29077, N-41. Sample of milk produced by Henry Laux, Gera R. F. D. No. 1. Below standard in specific gravity, butter fat and total solids. Contains about 30% added water.

No. 29078, N-42. Sample of milk produced by Mike Roth, Frankenthuth R. F. D. No. 2. Below standard in specific gravity, butter fat and total solids. Contains about 26% added water.

No. 29113, P-1081. Sample of milk procured from Peter Michael, Star Restaurant, 406 E. Main St., Jackson. Below standard in butter fat and total solids. Contains about 18% added water.

No. 29116, P-1084. Sample of milk procured from Alex Savoy, Restaurant, 232 E. Main St., Jackson. Below standard in butter fat and

total solids. Above standard in specific gravity. A part of the cream has been removed.

No. 29117, P-1085. Sample of milk procured from Geo. Barnard, N. Y. Restaurant, 224 E. Main St., Jackson. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29118, P-1086. Sample of milk procured from Paris Cafe, Geo. Polapolis, proprietor, 128 E. Main St., Jackson. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29121, P-1089. Sample of milk procured from Sam Chaporis, 221 Francis St., Jackson. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29123, P-1091. Sample of milk procured from Rebecca Jaures, 119 Michigan Ave., Jackson. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29125, P-1093. Sample of milk procured from the Liberty Cafe, Geo. Rores proprietor. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29134, P-1096. Sample of milk procured from Thomas Donley, Leoni. Below standard in specific gravity and total solids. Contains about 16% added water.

No. 29135, P-1097. Sample of milk procured from Thomas Donley, Leoni. Below standard in specific gravity and total solids. Contains about 14% added water.

No. 29136, P-1098. Sample of milk procured from Thomas Donley, Leoni. Below standard in specific gravity and total solids. Contains about 10% added water.

No. 29157. Unofficial sample of milk. Below standard in total solids. A part of the cream has been removed.

No. 29161. Unofficial sample of milk. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29261, P-1128. Sample of milk procured from H. Decker, Hillsdale. Below standard in butter fat and total solids. Above standard in specific gravity. A part of the cream has been removed.

No. 29264, P-1131. Sample of milk procured from E. F. Esterline, Hillsdale. Below standard in specific gravity and total solids.

No. 29288, P-1149. Sample of milk procured from Geo. Gavaris, Hillsdale. Below standard in butter fat and total solids. A part of the cream has been removed.

OLEOMARGARINE.

No. 28872, G-1028. Sample of oleomargarine procured from R. J. Kneebone, Ontonagon. Legal sign not displayed.

No. 28880, G-1035. Sample of oleomargarine procured from Zenon Chattell, Lake Linden. Sample is oleomargarine. Legal sign not displayed.

No. 28892, I-194. Sample of oleomargarine from Peter Trese, Port Huron. Legal sign not displayed.

No. 28928, V-44. Sample of oleomargarine procured from Rodger & Miller, 840½ Michigan Ave., Detroit. Sample is oleomargarine artificially colored. No sign displayed.

No. 28934, V-45. Sample of oleomargarine procured from M. A. McGowan, 208 Griswold St., Detroit. No sign displayed.

No. 28935, V-46. Sample of oleomargarine from M. A. McGowan, 155 W. Jefferson Ave., Detroit. No sign displayed.

No. 28940, G-1043. Sample of oleomargarine procured from Loni LaBranche, LaBranche. No sign displayed.

No. 28969, G-1056. Sample of oleomargarine procured from Frank Peterson & Co., Manistique. Legal sign not displayed.

SAUSAGE.

No. 28485, Y-159. Sample of Bologna sausage manufactured and sold by George Zimmer, Bay City. Sample contains an excessive amount (2.51%) of cereal. Not stamped.

No. 28550, P-905. Sample of sausage manufactured and sold by Beeman Bros., Lansing. Contains sodium benzoate. Package not stamped "Prepared with sodium benzoate."

No. 28612, G-1008. Sample of bologna sausage procured from Schnellar & Co., Laurium. Cereal 2%. Package or product not stamped.

No. 28613, G-1009. Sample of bologna sausage manufactured and sold by Niemela & Wickstrom, Laurium. Cereal present. Package or product not stamped.

No. 28615, G-1011. Sample of bologna sausage manufactured and sold by W. J. Reynolds, Laurium. Cereal present. Package or product not stamped.

No. 28634, G-1013. Sample of bologna sausage manufactured and sold by Salicetti & Carbonatti, Laurium. Cereal present. Package or product not stamped.

No. 28783, F-128. Sample of bologna sausage procured from Joseph Maxbauer & Son, Traverse City. Product contained an excessive amount (2.70%) of cereal. Package or product not stamped.

No. 28841, G-1020. Sample of bologna sausage manufactured by Dan A. Holland, Hancock, and procured from the Western Federation of Mines, South Range. Product contains an excessive amount (4.53%) of cereal. Package or product not stamped.

No. 28866, G-1023. Sample of pork sausage manufactured by D. A. Holland, Hancock, and procured from H. S. Goodell & Co., Winona, Houghton Co. Sample contains an excessive amount (4.47%) of cereal. Package not stamped.

No. 28879, G-1034. Sample of Frankfurt sausage procured from Zenon Chattell, Lake Linden. Cereal present. Package or product not stamped.

No. 28881, G-1036. Sample of bologna sausage manufactured and sold by Joseph Robert, Lake Linden. Cereal present. Package or product not stamped.

No. 28884, G-1039. Sample of bologna sausage manufactured and sold by L. Hennes & Co., Lake Linden. Sample contains an excessive amount (2.8%), of cereal. Package of product not stamped.

No. 28937, G-1040. Sample of Frankfurt Sausage manufactured and sold by Hugo Breitenbach, North Escanaba. Product contains an excessive amount (5.57%) of cereal. Package or product not stamped.

No. 28943, G-1046. Sample of bologna sausage manufactured and sold by Morris Anderson, Gladstone. Cereal present. Package or product not stamped.

No. 28946, G-1049. Sample of Frankfurt sausage manufactured and

sold by M. P. Foy, Gladstone. Product contains an excessive amount (3.54%) of cereal. Package of product not stamped.

No. 28948, G-1051. Sample of bologna sausage manufactured and sold by Olson & Anderson, Gladstone. Product contains an excessive amount (2.79%) of cereal. Package or product not stamped.

No. 28949, G-1052. Sample of bologna sausage manufactured and sold by Anderson and Holm, Gladstone. Product contains an excessive amount (4.89%) of cereal. Package or product not stamped.

No. 29047, G-1058. Sample of pork sausage manufactured by D. A. Holland, Hancock, and procured from E. F. Slattery, Ripley. Product contains an excessive amount (5.42%) of cereal. Package or product not stamped.

No. 29048, G-1059. Sample of bologna sausage manufactured by D. A. Holland, Hancock, and procured from E. F. Slattery, Ripley. Product contains an excessive amount (7.26%) of cereal. Package or product not stamped.

No. 29049, G-1060. Sample of bologna sausage manufactured and sold by D. A. Holland, Hancock. Product contains an excessive amount (6.49%) of cereal. Package or product not stamped.

No. 29050, G-1061. Sample of Frankfurt sausage manufactured and sold by D. A. Holland, Hancock. Product contains an excessive amount (5.08%) cereal. Package or product not stamped.

No. 29241, G-1071. Sample of pork sausage procured from Alex. McIntosh, Sault Ste. Marie. Cereal present. Package or product not stamped.

No. 29242, G-1072. Sample of Frankfurt sausage manufactured by the Cornwell Beef Co., Sault Ste. Marie, and procured from A. H. Eddy, Sault Ste. Marie. Product contains an excessive amount (6.85%) cereal. Product or package not stamped.

No. 29248, P-1148. Sample of bologna manufactured and sold by Croose Cooper Co., Hillsdale. Product contains an excessive amount (4.41%) of cereal. Package or product not stamped.

No. 29271, P-1138. Sample of bologna sausage manufactured and sold by A. J. Colvin, Hillsdale. Product contains an excessive amount (11.31%) cereal. Package or product not stamped.

VINEGAR.

No. 28933. Unofficial sample of vinegar. Sample is low in acidity.

No. 29056. Unofficial sample of vinegar. Low in acidity.

DRUG INSPECTIONS.

The following places were visited by the drug inspectors of the Department during the months of January and February, 1914:

Addison, Akron, Algonac, Alto, Applegate, Augusta, Bad Axe, Bancroft, Bangor, Bannister, Battle Creek, Bay City, Belding, Bellevue, Berrien Springs, Birch Run, Breckenridge, Brooklyn, Brown City, Buchanan, Capac, Caro, Carsonville, Casnovia, Cass City, Cedar Springs, Charlotte, Chesaning, Clifford, Climax, Clio, Corunna, Crosswell, Decatur, Deckerville, Detroit, DeWitt, Dowagiac, Durand, Fennville, Flushing,

Fowlerville, Freeland, Fremont, Galesburg, Grand Rapids, Grandville, Greenville, Harbor Beach, Hartford, Hastings, Hemlock, Henderson, Holland, Imlay City, Ionia, Jackson, Kalamazoo, Kent City, Lake Odessa, Lansing, Lapeer, Lawton, Lowell, Lum, Marine City, Marlette, Mayville, Merrill, Middleville, Midland, Millington, Minden City, Montrose, Morrice, Mt. Clemens, Mt. Morris, New Baltimore, Newaygo, Niles, North Branch, Oakley, Ovid, Okemos, Owosso, Paw Paw, Perry, Plainwell, Port Huron, Ravenna, Richmond, Rockford, Saginaw, St. Charles, St. Clair, St. Johns, Sandusky, Sanford, Saugatuck, Schoolcraft, Sparta, South Haven, Webberville, Wheeler, White Cloud, Williamston, Yale, Zeeland.

March 1st, 1914.

Hon. James W. Helme, State Dairy & Food Commissioner, Lansing, Michigan:

Dear Sir—I herewith beg to submit my report for the two months ending February 28th.

During this period a total of 154 samples were examined, an increase over the previous two months of 74 samples. 73 or 47% of the number examined were adulterated or misbranded in that they did not comply with the requirements of the drug law. Detailed information on these products will be found following the summary.

Yours truly,
A. R. TODD,
Drug Analyst.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Aspirin tablets.....	11	7	4
Camphor liniment.....	12	8	4
Con. Tr. opium camphorated.....	4	4	0
Elixir iron, quinine and strychnine.....	1	0	1
Essence pepsin.....	2	0	2
Fluid ext. Nux vomica.....	1	0	1
Fowler's solution.....	3	3	0
Spirits camphor.....	13	8	5
Spirits nitre.....	6	2	4
Spirits peppermint.....	13	3	10
Tr. Belladonna.....	6	1	5
Tr. Codeine sulphate.....	1	1	0
Tr. Iodine.....	43	18	25
Tr. Opium.....	9	8	3
Tr. Opium camphorated.....	12	12	0
Tr. Opium deodorized.....	1	1	0
Tr. Nux vomica.....	1	0	1
T. T. Morphine sulphate.....	2	1	1
T. T. Nitroglycerine.....	3	1	2
Potassium iodide.....	2	0	2
Powdered milk sugar.....	1	1	0
Proprietary preparations.....	2	2	0
Soap liniment.....	1	1	0
Syrup ferrous iodide.....	1	0	1
Zinc oxide ointment.....	3	1	2
Totals.....	154	81	73

ANALYSES OF SAMPLES.

ASPIRIN.

No. 29036, Q-263. Sample of C. T. Aspirin manufactured by Frank G. Scott, Detroit, and procured from F. W. Harris, Birch Run. Misbranded in that the aspirin content does not equal that stated on the label.

No. 29046, Q-273. Sample of C. T. Aspirin procured from M. R. Deo, North Branch. Misbranded in that the sample does not conform to statement on the label. Low in aspirin content.

No. 29250, Q-295. Sample of Aspirin (5 gr.) manufactured by Wm. R. Warner & Co., Philadelphia, Pa., and procured from A. E. Tomlinson, Saginaw. Sample does not contain 5 grains of aspirin as stated on the label.

No. 29252, Q-297. Sample of 5 gr. Aspirin tablets manufactured by F. W. Kerr, Detroit, and procured from B. A. Wright, 2710 Washington St., Saginaw. Sample does not contain five grains of aspirin as stated on the label.

CAMPHOR LINIMENT.

No. 29006, Q-255. Sample of camphor liniment manufactured and sold by Carl W. Wilcox, Henderson. Low in camphor.

No. 29041, Q-268. Sample of camphor liniment manufactured and sold by O. C. Palmer, Caro. Low in camphor.

No. 29222, Z-258. Sample of camphor liniment manufactured and sold by Walsh Drug Co., Holland. Low in camphor.

No. 29299, Q-302. Sample of camphor liniment manufactured and sold by W. T. Fowley & Co., Bay City. Low in camphor.

ELIXIR IRON, QUININE, & STRYCHNINE.

No. 28885, Q-230. Sample of elixir iron, quinine and strychnine manufactured by the Lambert Pharmaceutical Chemical Co., Detroit, and procured from F. L. McIntyre, Detroit. Low in total alkaloids.

PEPSIN.

No. 28922, Q-247. Sample of pepsin manufactured by the Michigan Drug Co., Detroit, and procured from F. M. McCormick, Williamston. Low in digestive power.

No. 29003, Q-252. Sample of essence pepsin manufactured by Frederick Stearns & Co., Detroit, and procured from E. D. Beebe, Ovid. Low in digestive power.

FLUID EXTRACT NUX VOMICA.

No. 29001, Q-250. Sample of fluid extract nux vomica manufactured by the Schmidt Chemical Co., Jackson, and procured from L. W. Curtis, Elsie. Low in strychnine.

SPIRITS CAMPHOR.

No. 28888, Q-233. Sample of spirits of camphor manufactured and sold by F. M. Mead, 822 Trumbull Ave., Detroit. Low in camphor.

No. 28906, Q-234. Sample of spirits camphor manufactured and sold by Sprague & Co., Owosso. Low in camphor.

No. 28909, Q-237. Sample of spirits camphor manufactured and sold

by W. D. Whitehead & Co., Owosso. Low in camphor, and contains added water.

No. 28918, Q-243. Sample of spirits camphor manufactured and sold by A. R. Gardner, Fowlerville. Low in camphor.

No. 29245, Q-290. Sample of spirits camphor manufactured and sold by Wm. Kipp, Wheeler. Low in camphor.

SPIRITS NITRE.

No. 29007, Q-256. Sample of spirits nitre manufactured by the Michigan Drug Co., Saginaw, and procured from Carl W. Wilcox, Henderson. Low in ethyl nitrite.

No. 29096, Q-279. Sample of spirits nitre manufactured and sold by G. M. Benedict, Applegate. Low in ethyl nitrite.

No. 29246, Q-291. Sample of spirits nitre manufactured by the Michigan Drug Co., Saginaw, and procured from Wm. Kipp, Wheeler. Low in ethyl nitrite.

No. 29297, Q-300. Sample of spirits nitre manufactured and sold by W. E. Stevenson, Bay City. Low in ethyl nitrite.

SPIRITS PEPPERMINT.

No. 28911, Q-239. Sample of spirits peppermint manufactured and sold by W. A. Conley, Morrice. Low in oil of peppermint.

No. 28913, Q-241. Sample of spirits peppermint manufactured and sold by Sherman & Grettenberger, Perry. Low in oil of peppermint.

No. 28989, Z-214. Sample of spirits peppermint manufactured and sold by Hubbard & Fuller, Greenville. Low in oil of peppermint.

No. 29008, Q-257. Sample of spirits peppermint manufactured and sold by Valentine Thomas, Oakley. Low in oil of peppermint.

No. 29083, Z-221. Sample of spirits peppermint manufactured and sold by C. R. StGermaine, Decatur. Low in oil of peppermint.

No. 29086, Z-231. Sample of spirits peppermint manufactured and sold by Wm. H. Peets, Battle Creek. Low in oil of peppermint.

No. 29103, Z-234. Sample of spirits peppermint manufactured and sold by C. F. Frost, Grand Rapids. Low in oil of peppermint.

No. 29143, Z-243. Sample of spirits peppermint manufactured and sold by S. Van Ostrand, South Haven. Low in oil of peppermint.

No. 29174, Z-249. Sample of spirits peppermint manufactured and sold by Alton L. Nye, Lake Odessa. Low in oil of peppermint.

No. 29309, Z-266. Sample of spirits peppermint manufactured and sold by M. E. Gamble, Kalamazoo. Low in oil of peppermint.

TINCTURE BELLADONNA.

No. 29107, Z-238. Sample of Tr. belladonna manufactured and sold by J. G. Stketee, Grand Rapids. Low in alkaloids.

No. 29108, Z-239. Sample of Tr. belladonna manufactured and sold by Cutler-Lauster Drug Co., Ionia. Low in alkaloids.

No. 29171, Z-246. Sample of Tr. belladonna manufactured and sold by F. E. Beard, Charlotte. Low in alkaloids from belladonna leaves.

No. 29217, Z-253. Sample of Tr. belladonna manufactured and sold by Peter Vellemar, Grand Rapids. Low in alkaloids from belladonna leaves.

No. 29224, Z-260. Sample of Tr. belladonna manufactured and sold at Opera House Pharmacy, Holland. Low in alkaloids from belladonna leaves.

TINCTURE IODINE.

No. 28887, Q-232. Sample of Tr. iodine manufactured and sold by A. S. Abbott, 1468 14th Ave., Detroit. Low in iodine and potassium iodide.

No. 28898, Z-200. Sample of Tr. iodine manufactured and sold by James Burt, Grand Rapids. Low in potassium iodide.

No. 28901, Z-203. Sample of Tr. iodine manufactured by K. H. Nelson, Dowagiac. Low in iodine and potassium iodide.

No. 28907, Q-235. Sample of Tr. iodine manufactured and sold by Sprague & Co., Owosso. Low in iodine and potassium iodide.

No. 28910, Q-238. Sample of Tr. iodine manufactured and sold by W. A. Conley, Morrice. Low in potassium iodide.

No. 28919, Q-244. Sample of Tr. iodine manufactured by A. R. Gardner, Fowlerville. Low in iodine and potassium iodide.

No. 28960, Z-208. Sample of Tr. iodine manufactured and sold at Hunts Drug Store, St. Johns. Low in potassium iodide.

No. 28990, Z-215. Sample of Tr. iodine manufactured and sold by Peter Van Deinse, Greenville. Low in iodine.

No. 28999, Q-248. Sample of Tr. iodine manufactured and sold by E. S. Upson, Durand. Low in potassium iodide.

No. 29005, Q-254. Sample of Tr. iodine manufactured and sold by Carl W. Wilcox, Henderson. Low in iodine.

No. 29031, Z-226. Sample of Tr. iodine manufactured and sold by J. DeKruif & Co., Grand Rapids. Low in potassium iodide.

No. 29034, Q-261. Sample of Tr. iodine manufactured and sold by Slattery Bros., Mt. Morris. Low in iodine and potassium iodide.

No. 29039, Q-266. Sample of Tr. iodine manufactured and sold by O. C. Palmer, Caro. Low in iodine.

No. 29084, Z-229. Sample of Tr. iodine manufactured and sold by Sheldon Coleman, Lawton. Low in iodine and potassium iodide.

No. 29093, Q-276. Sample of Tr. iodine manufactured and sold at the Marquette Pharmacy, Port Huron. Low in iodine.

No. 29099, Q-282. Sample of Tr. iodine manufactured and sold by E. L. Moore, Minden City. Low in iodine and potassium iodide.

No. 29169, Q-287. Sample of Tr. iodine manufactured and sold by M. W. Moore, Sandusky. Low in iodine and potassium iodide.

No. 29172, Z-247. Sample of Tr. iodine manufactured and sold by James H. Bryan, Charlotte. Low in potassium iodide.

No. 29219, Z-255. Sample of Tr. iodine manufactured and sold by John W. Kramer, Holland. Low in potassium iodide.

No. 29223, Z-259. Sample of Tr. iodine manufactured and sold by H. R. Doesburg, Holland. Low in iodine and potassium iodide.

No. 29227, Z-263. Sample of Tr. iodine manufactured and sold by A. E. Mulholland, Hastings. Low in iodine and potassium iodide.

No. 29243, Q-286. Sample of Tr. iodine manufactured and sold by Marwinski & Loeblich, 901 Lapeer St., Saginaw. Contains an excessive amount of iodine and potassium iodide.

No. 29300, Q-303. Sample of Tr. iodine manufactured and sold by W. T. Fowley & Co., 610 Midland St., Bay City. Low in iodine.

No. 29310, Z-267. Sample of Tr. iodine manufactured and sold by F. B. Drolet, Kalamazoo. Low in iodine.

No. 29316, Z-273. Sample of Tr. iodine manufactured and sold by Chas. Macomber, Battle Creek. Low in iodine.

TINCTURE OPIUM.

No. 29098, Q-281. Sample of Tr. opium manufactured and sold by E. L. Moore, Minden City. Low in morphine.

No. 29100, Q-283. Sample of Tr. opium manufactured and sold by the Minden City Pharmacy, Minden City. Low in morphine.

No. 29170, Q-288. Sample of Tr. opium manufactured and sold by M. W. Moore, Sandusky. Low in morphine.

TINCTURE NUX VOMICA.

No. 28532, Q-220. Sample of Tr. nux vomica manufactured and sold by C. W. Thomas, Wyandotte. Low in strychnine.

T. T. MORPHINE SULPHATE.

No. 28962, Z-209. Sample of T. T. morphine sulphate 1/8 gr. manufactured by Nelson, Baker & Co., Detroit, and procured from James A. Skinner, Cedar Springs. Not in conformity with statement of label. Low in morphine.

NITROGLYCERINE.

No. 28274, Q-190. Sample of nitroglycerine 1/100 manufactured by Lambert & Lowman, Detroit, and procured from H. E. Mudge, 1269 Harper Ave., Detroit. Nitroglycerine none.

No. 29097, Q-280. Sample of nitroglycerine 1/100 manufactured by J. F. Hartz Co., Detroit, and procured from C. E. Pettit, Harbor Beach. Does not conform to statement on the label. Nitroglycerine none.

POTASSIUM IODIDE.

No. 28471, Q-209. Sample of potassium iodide manufactured by Eherbach & Son, Ann Arbor, sold by Farrand, Williams & Clark, Detroit, and procured from T. Belanger, 3202 Jefferson Ave. West, River Rouge. Sample is a mixture of potassium iodide and potassium chloride.

No. 29131, Q-286. Sample of potassium iodide manufactured by Eherbach & Son, Ann Arbor, and procured from Farrand, Williams & Clark, Detroit. Sample is a mixture of potassium iodide and potassium chloride.

SYRUP FERROUS IODIDE.

No. 29002, Q-251. Sample of syrup ferrous iodide manufactured by Peck, Johnson Co., Grand Rapids, and procured from L. W. Curtis, Elsie. Low in ferrous iodide.

ZINC OXIDE OINTMENT.

No. 28995, Z-220. Sample of zinc oxide ointment manufactured and sold by R. W. Cochrane, Kalamazoo. Low in zinc oxide.

No. 29218, Z-254. Sample of zinc oxide ointment manufactured and sold by Geo. L. Lage, Holland. Low in zinc oxide.

WEIGHTS AND MEASURES.

Owing to the fact that the state's new Weights and Measures Law carries with it no appropriation whatever for its enforcement, it necessarily limits the number of persons who are available to give this matter attention and limits the amount of work that the department is able to do. The Deputy Dairy & Food Commissioner with his other duties

is in charge of this branch of the department work. There has been one inspector assigned to assist him together with such other assistance in the office as can from time to time be spared in helping out in testing the different equipments of cities and counties which come to us. The available force has been busy during the months of January and February testing the equipments of various cities and counties, starting the new sealers at work, and testing measures that manufacturing firms sent to the department for the purpose of ascertaining whether or not they would pass state inspection.

In January and February we lent assistance to the following named sealers: Lientenant Ed. Austin of Detroit, George A. Hawkins of Bay City, George Eldridge of Adrian, Volney A. Ripley of Sault Ste. Marie, Walter W. Dean of Traverse City, C. G. Wuellner of Menominee, Pat Connors of Matchwood and R. G. Elliott of Munising. The following equipments were tested: 40 fifty pound weights for the City of Lansing, a part of Flint's equipment and the complete equipments of the cities of Adrian, Kalamazoo, Muskegon, Saginaw, Detroit and Grand Rapids, together with the equipments of the Counties of Menominee, Bay, Alger and Chippewa. Measures were tested for the following named manufacturing firms: Stuber & Kuch, Peoria, Ill.; Cordley & Hayes, New York; Martin Mfg. Co., Mason City, Iowa; and Geuder, Paeschke & Frey Co., of Milwaukee.

WEIGH THE GOODS SOLD.

The different weights and measures officials and food inspectors have authority to weigh all commodities bought and sold. A number of officials examine the scales very carefully but do not spend as much time as they should in reweighing articles. The functions of a weights and measures official is to see that the people who are selling and buying give and get just weights and measures, and the most important part of his work is to see that right weight is given and to particularly seek out the unscrupulous dealer and keep after him until he reforms. The unscrupulous dealer who under-weighs or measures not only beats the people who deal with him, but is enabled to cut or raise prices, depending on whether he is buying or selling, making it hard for his competitors to keep him from getting their business.

I want to call your attention to Section 7 of the Weights and Measures Law which reads in part as follows:

"Any person who by himself or his servant or agent or as the servant or agent of another, shall knowingly sell or offer for sale less than the quantity he represents....."

In starting court cases be very careful of that word "knowingly." Get the dealer or servant in the presence of a witness to admit he knows the amount of the commodity. For illustration, take potatoes. If the customer is buying a peck, ask the dealer if he knows a peck should weigh 15 lbs., etc., or else inform him before starting a suit. A case won is a wonderful help in enforcing the law while a case lost is a drag. Don't be afraid to start suits. You cannot enforce the law without them.

Burr B. Lincoln,

Deputy Dairy & Food Commissioner.

SCALES EXAMINED DURING THE MONTHS OF JANUARY AND FEBRUARY, 1914.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
Detroit Milling Company	Adrian	1	1	.....
A. D. Balch	Howell	2	.....	1
Barron & Wines	Howell	1	.....	.....
John F. Cook & Co.	Howell .....	.....	2	.....
John F. Cook & Co.	Howell	1	.....	.....
Coscarelli & Spadaform	Howell .....	.....	4	.....
Claude Culver	Howell	*2	.....	.....
Geo. Dickson & Sons	Howell .....	.....	.....	1
Goodnow & Judd	Howell .....	.....	.....	1
Goodnow, Satterly, Scully Co.	Howell .....	.....	1	1
V. E. Hill	Howell .....	.....	.....	.....
L. W. Hovey	Howell	1	1	.....
E. K. Johnson & Son	Howell	1	.....	.....
Larkin & Krayer	Howell .....	.....	1	1
C. S. Line	Howell	1	.....	1
Miner & Farnsworth	Howell	1	.....	2
Henry Monroe	Howell .....	.....	.....	1
H. O. Parker	Howell	2	1	.....
Postoffice	Howell	*8	4	.....
Schroeder & Ruetlie	Howell	1	.....	1
Chas. Sutton	Howell .....	.....	.....	1
H. J. Sweet	Howell	1	3	1
Gasper Todaro	Howell	1	1	1
John Meagher	Lansing .....	.....	1	.....

*Not sealed.

MEASURES EXAMINED DURING THE MONTHS OF JANUARY AND FEBRUARY, 1914

Name of firm.	Location.	Correct and sealed.	Incorrect and sealed.	Adjusted
A. D. Balch	Howell	4	6	.....
Goodnow & Jubb	Howell	26	3	.....
L. W. Hovey	Howell	1	1	.....
C. S. Line	Howell	2	.....	.....
Henry Monroe	Howell	2	2	.....
H. O. Parker	Howell	6	2	.....
Schroeder & Ruetkie	Howell	13	11	.....
Chas. Sutton	Howell	23	9	.....
H. J. Sweet	Howell	7	1	.....

WEIGHTS EXAMINED DURING THE MONTHS OF JANUARY AND FEBRUARY, 1914.

Name of firm.	Location.	Correct and sealed.	Incorrect and sealed.	Adjusted.
A. D. Balch	Howell	8	.....	4
Barron & Wines	Howell	4	.....	4
Goodnow & Jubb	Howell	2	.....	.....
L. W. Hovey	Howell	3	.....	.....
E. K. Johnson & Son	Howell	8	1	1
Miner & Farnsworth	Howell	4	.....	2
Henry Monroe	Howell	4	1	2
Schroeder & Ruetkie	Howell	3	.....	.....
H. J. Sweet	Howell	5	.....	2
Gasper Todaro	Howell	3	.....	2

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surround- ings.
Barry County, January:					
Crystal Creamery Co.	Hastings	Crystal Cry Co.		300,000	Good.
Hastings Cream Station	Hastings	Swift & Co.			Fair.
Cooperative Creamery	Middleville	Cooperative		300,018	Good.
Branch County, January:					
Jackson City Cry., Cream Station	Union City	Jackson City Cry.			Good.
Jackson City Cry. Cream Station	Sherwood	Jackson City Cry.			Good.
Calhoun County, January:					
Jackson City Cry. Cream Station	Homer	Jackson City Cry.			Good.
Jackson City Cry. Cream Station	Tekonsha	Jackson City Cry.			Good.
Tekonsha Creamery Co.	Tekonsha	H. E. Taylor			Good.
Clare County, January:					
Port Huron Creamery Co.	Clare	Geo. Dailey			Good.
W. E. Vance	Clare	W. E. Vance		20,000	Fair.
Eaton County, January:					
Cloverleaf Creamery	Charlotte	W. T. Leonard		180,000	Good.
Towards Wayne Co. Cry. Cream Sta.	Charlotte	Towards W'ne Co. Cr. Co.			Good.
Towards Wayne Co. Cry. Cream Sta.	Eaton Rapids	Towards W'ne Co. Cr. Co.			Good.
Vermontville Creamery	Vermontville	H. Gordon & Son		56,205	Fair.
Gladwin County, January:					
Beaverton Creamery Co.	Beaverton	F. E. Shoup			Good.
Michigan Creamery Co.	Beaverton	E. L. Keney			Good.
Jackson County, January:					
Concord Crystal Creamery	Concord	E. S. Wilcox		176,100	Good.
J. A. Fowler Creamery	Jackson	J. A. Fowler	1,214,000		Fair.
Jackson City Cream Station	Rives Junction	Jackson City Cry. Co.			Good.
Jackson City Creamery	Jackson	Jackson Farm Pro. Co.		318,000	Good.
Macomb County, January:					
Gais Creamery	Mt. Clemens	John Gais	1,419,000	47,540	Good.
New Baltimore Creamery	N. Baltimore	N. Baltimore Cry.	8,641,519	58,604	Good.
Washington Cream Station	Washington	Towards W'ne Co. Cr. Co.			Fair.
Midland County, January:					
Coleman Creamery Co.	Coleman	Chas. Keyworth		80,000	Good.
Farmers Creamery Co.	Coleman	F. L. Ferguson		75,000	Good.
Michigan Creamery Co.	Coleman	Howard Jones		10,000	Good.
Montcalm County, January:					
Durand Creamery Co.	Carson City	A. N. Dumas			Good.
Towards Wayne Co. Cry Co.	Carson City	A. B. VanSickle			Good.
Oakland County, January:					
Pontiac Cooperative Creamery Co.	Pontiac	F. C. King	889,412	24,119	Good.
Shiawassee County, January:					
Towards Wayne County Creamery	Owosso	Clarence Shields			Good.
St. Joseph County, January:					
Colon Creamery Co.	Colon	L. D. Akey		131,204	Fair.
Jackson City Creamery Cream Sta.	St. Joseph	Jackson City Cry. Co.			Good.
Tuscola County, January:					
Halpin Creamery Station	Reese	Honsinger Bros.			Good.
Towards Wayne County Cry. Station	Reese	F. H. Stock			

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Stim milk tank.	Piping.	Churn.	Engine.	Roller.		
Clean...	Clean...	.....	.....	Clean...	Clean...	.....	Good...	Clean...	Good...	Good...	.....	92
Dirty	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Good...	.....	.....	.....	Clean...	.....	Good...	Clean...	Good...	Good...	.....	93
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Good...	.....	.....	.....	Clean...	.....	Fair...	Clean...	Good...	Good...	.....	90
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Clean...	.....	.....	Clean...	Clean...	.....	Good...	Clean...	Good...	.....	.....	91
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	Clean...	.....	Fair...	Clean...	Good...	Good...	.....	91
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Good...	Good...	.....	.....	Good...	Good...	.....	Good...	Good...	Good...	Good...	.....	.....
Good...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Good...	.....	.....	.....	Clean...	.....	Good...	Clean...	Good...	Good...	.....	91
Clean...	Good...	Clean...	Clean...	.....	Clean...	.....	Good...	Clean...	Good...	Good...	Fair...	.....
Clean...	.....	.....	.....	.....	Clean...	.....	Fair...	Clean...	Good...	Good...	.....	92
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Fair...	Clean...	Good...	Good...	Good...	94
Clean...	Clean...	.....	.....	.....	Clean...	.....	Fair...	Good...	Good...	Good...	Good...	93
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Good...	Good...	.....	.....	Good...	Good...	.....	Good...	Good...	.....	Good...	.....	92
Good...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	91
Good...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Good...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Clean...	.....	Clean...	.....	Clean...	.....	Good...	Clean...	Good...	Good...	Good...	94
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Good...	.....	.....	Clean...	Clean...	.....	Fair...	Clean...	Good...	Good...	.....	91
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surround- ings.
Wayne County, January:					
Canton Milk Depot.....	Canton.....	Detroit Cry. Co.....			Good...
Gabel Creamery Co.....	Detroit.....	Philip Gabel.....		415,000	Good...
Highland Park Creamery Co.....	Highland Park.....	Highland Park Cry. Co.....		8,416,912	Good...
Lyman Johnston Cry. Co.....	Wyandotte.....	L. Johnston.....	511,000	11,000	Good...
Medina County Cry. Co.....	Detroit.....	A. E. Stoniffer.....		510,000	Good...
P. A. Nash Creamery.....	Plymouth.....	P. A. Nash.....		14,780	Good...
Plymouth Milk Depot.....	Plymouth.....	Detroit Creamery Co.....	2,619,000		Good...
Spencer & Howe's Creamery Co.....	Detroit.....	Spencer & Howe.....		450,000	Good...
Trembley Creamery.....	Detroit.....	J. Trembley.....	192,000		Good...
Bay County, February:					
Pinoconning Creamery.....	Pinoconning.....	Urban Bros.....		70,000	Good...
Vasold Bros.....	Bay City.....	Walter Vasold.....		200,000	Good...
Calhoun County, February:					
Maple City Creamery.....	Albion.....	D. S. Birdsall.....			Good...
Marshall Creamery Co.....	Marshall.....	Marshall Cry. Co.....		104,506	Fair...
Clinton County, February:					
DeWitt Cream Station.....	DeWitt.....	Island City Cry. Co.....			Good...
Eaton County, February:					
Mulliken Creamery Co.....	Mulliken.....	Mulliken Cry. Co.....		94,204	Fair...
Genesee Co., February:					
Freeman Dairy Co.....	Flint.....	Leonard Freeman.....			Good...
Goodrich Cooperative Cry.....	Goodrich.....	J. L. Pierson.....		161,205	Good...
Huron County, February:					
Huron Creamery Co.....	Pigeon.....	John Olerich.....		100,000	Good...
Medina County Creamery Co.....	Elkton.....	Fred Elder.....			Fair...
F. M. Warner Co.....	Pigeon.....	F. M. Warner.....		150,000	Good...
Ingham County, February:					
Island City Creamery Co.....	Landing.....	Island City Cry. Co.....		83,094	Fair...
Lapeer County, February:					
Imlay City Creamery Co.....	Imlay City.....	W. M. Muir.....		190,000	Fair...
Macomb County, February:					
Mt. Clemens Milk Depot.....	Mt. Clemens.....	Detroit Creamery Co.....			Good...
Montcalm County, February:					
L. Barber & Co.....	Stanton.....	David Chase.....			Good...
Swift & Co.....	Stanton.....	J. H. Mathews.....			Good...
Ogemaw County, February:					
Rose City Creamery.....	Rose City.....	W. A. Cook.....			Good...
Washtenaw County, February:					
Ann Arbor Creamery Co.....	Ann Arbor.....	Allen & Eaton.....		22,119	Good...
Wurster Bros. Milk Depot.....	Ann Arbor.....	Wurster Bros.....	747,208		Good...
Ypsilanti Dairy Association.....	Ypsilanti.....	E. A. Wiard.....	9,642,509	408,559	Good...
Wayne County, February:					
Wayne Creamery.....	Wayne.....	Howard Johnston.....	1,614,916		Good...

CREAMERIES.—Continued.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good.	Good.			Clean.	Clean.					Fair.	Good.	
Clean.	Clean.	Clean.	Good.	Clean.	Clean.		Good.	Clean.	Good.	Good.	Good.	
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.		Good.	Clean.	Good.	Good.	Good.	
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.		Fair.	Clean.	Good.	Good.	Good.	91
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.		Good.	Clean.	Good.	Good.	Good.	91
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Fair.	Clean.	Good.	Good.	Good.	91
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Good.	Clean.	Good.	Good.	Good.	91
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Good.	Clean.	Good.	Good.	Good.	
Good.					Good.		Good.	Fair.	Good.	Good.		91
Good.				Good.	Good.		Good.	Good.	Good.	Good.		92
Clean.	Good.				Clean.		Good.	Clean.	Good.	Good.		92
Clean.	Good.				Clean.		Fair.	Clean.	Good.	Good.		91
Clean.												
Clean.	Good.				Clean.		Fair.	Clean.	Good.	Good.		90
Clean.	Good.	Clean.	Clean.	Clean.	Clean.	Clean.	Good.	Clean.	Good.	Good.	Good.	91
Clean.	Clean.	Clean.	Clean.		Clean.		Good.	Clean.	Good.	Good.	Fair.	93
Fair.	Good.				Fine.		Good.	Good.	Good.	Good.		
Good.	Good.			Good.	Good.		Good.	Good.	Good.	Good.		91
Clean.					Clean.		Good.	Clean.	Fair.	Fair.		90
Clean.	Fair.				Clean.		Fair.	Clean.	Good.	Good.		90
					Clean.		Good.		Good.	Good.	Good.	
Good.												
Good.	Good.				Good.		Good.		Good.	Fair.		90
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.		Good.	Clean.	Good.	Good.	Good.	91
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Good.	Clean.	Good.	Good.	Fine.	96
				Clean.	Clean.		Fair.	Clean.	Good.	Good.	Good.	

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts,	Make cheese,	Style.
Montcalm County, January:					
Carson City Cheese Co.	Carson City	F. H. Miner	1,500,000	150,000	Soft Michigan.
Saginaw County, January:					
Rogner & Son	Gera	M. G. Rogner	1,000,000	100,000	Michigan
Gratiot County, February:					
Elm Hall Cheese Factory	Elm Hall	W. H. Earls	300,000	30,000	Soft Michigan.
St. Clair County, February:					
Maple Grove Cheese Factory	Marine City	Maple Grove Cheese Co.	614,402	61,908	Limburger
Huron County, February:					
Rice Bros. Cheese Co.	Elkton	S. B. Rice	600,000	60,000	Michigan

INSPECTION OF

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Daily production of milk in pounds.	Breed.
Montcalm County, January:						
Isaac Pechtel	Carson City	Self	2	2	30	Graded
Shiawassee County, January:						
Ed. Angus	Owosso	Self	4	1	12	Graded
St. Clair County, January:						
Frank Simpson	Port Huron	Geo. French	7	5	15	Mixed
Montcalm County, February:						
J. E. May	Stanton	Self	5	4	.....	Jerseys

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
F. H. Miner	Good	2, fair	2, gang		Fair		12 H. P.	Good	
Max G. Rogner	Good	2, Good ..	2		Good		20 H. P.	Good	
Roy Wilkinson	Fair	1, good ..	1, gang ..		Fair		8 H. P.	Good	
G. Young	Good	1, clean ..	Autom'o.		Fair	Mar'll.	4 H. P.	Fair	
I. Rice	Good	2, good ..	1, gang ..		Good			Good	

DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Hay, bran	Fair ..	Door	No	Yes	Tubular well.
Cornstalks, ear corn	No	Hay loft	No	No	Tubular well.
Fodder, hay, bran	Yes	Door-Windows	Fair ..	Yes .....	.....
Oats, hay, corn, cooked beans	Fair ..	Hay chute	Fair ..	Yes .....	.....

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Dollar Bay, January:											
Geo. Carroll.....	85	90	90	95	100	460	Good.....	4.5	31.5	13.275	8.775
Gladstone, January:											
Geo. W. Green.....	85	75	85	85	85	415	Medium.....	3.2	25	10.09	7.89
Mrs. Skelton.....	88	85	90	80	100	443	Medium.....	4	32	12.3	8.8
C. E. Stearn.....	85	75	80	90	90	420	Medium.....	2.6	35	11.87	9.27
Alex. Williamson.....	90	90	90	90	85	445	Medium.....	3.4	30	11.58	8.18
Lake Linden, January:											
Frank Buschell.....	90	90	90	95	85	450	Good.....				
John R. Frank.....	90	80	90	90	95	445	Medium.....				
Jos. Hennecke.....	85	80	90	95	95	445	Medium.....				
Thos. Lahait.....	90	80	90	95	85	440	Medium.....				
Amos Turner.....	80	60	80	85	85	390	Poor.....				
Manistique, January:											
C. E. Beale.....	73	55	90	85	90	393	Poor.....				
Jno. Blomquist.....	100	90	90	95	100	475	Good.....				
John Brink.....	90	85	85	90	100	450	Good.....	4	30.5	12.42	8.425
Frank Cherneskey.....	90	65	80	90	85	410	Medium.....	3.6	31	12.07	8.47
Ole Hagquist.....	78	70	90	85	100	423	Medium.....				
E. C. Lindroth.....	88	80	80	95	85	428	Medium.....	3.8	31.5	12.435	8.635
Mrs. A. D. Smith.....	100	100	90	95	100	485	Excellent.....				
Wells, January:											
W. J. Roberts.....	80	60	90	80	85	385	Poor.....	3.6	31.5	12.195	8.595
Hancock, February:											
John Blossant.....	85	75	90	80	100	430	Medium.....	4	30.5	12.425	8.425
Alphonse Grouin.....	90	90	95	95	90	460	Good.....				
Peter Erickson.....	80	80	90	90	100	440	Medium.....				
James Gaspardo.....	82	80	75	85	95	417	Medium.....	4.2	30.0	12.54	8.34
John Isjarvi.....	90	85	85	95	90	445	Medium.....				
Wm. Koppans.....	90	90	85	90	85	440	Medium.....				
Mrs. Matilda Leppenen.....	85	80	90	90	90	435	Medium.....				
Isaac Olson.....	77	70	90	95	90	422	Medium.....				
Jos. Salmu.....	90	90	85	95	90	450	Good.....				
Batista Vitton.....	90	85	65	80	95	415	Medium.....	4	31	12.55	8.55
Matt Wesala.....	82	90	90	95	90	447	Medium.....				
Gerhart Weubben.....	85	80	90	80	90	425	Medium.....	4.2	33	13.29	9.09

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING.

JAMES W. HELME.....COMMISSIONER
BURR B. LINCOLN.....DEPUTY COMMISSIONER
FERN L. SHANNON.....STATE ANALYST
M. J. SMITH.....CHIEF CLERK
A. R. TODD.....DRUG ANALYST

PROCESS BUTTER.

BY J. W. HELME.

We notice in newspaper advertisements in various state papers that some grocers are advertising "Sweet Process Butter." We find on inquiry also that process butter is being sold for dairy butter. This is a rank fraud. Process butter, so-called, is merely and simply renovated butter.

During the summer time the local grocer buys much bad butter that it would not be possible to sell. When he gets a chunk of this, he heaves it into a barrel generally standing at the back door, and from time to time continues to throw in chunks of uneatable butter until he has a barrel full. This barrelful of rancid butter, oftentimes mixed with dirt and insects, is then sent to the renovated factory where it is melted, the insects strained out and the oil is churned with milk and thus made into what is called "Renovated Butter." Its name truly describes it.

A few years ago, however, the renovated butter men were able to get a law passed by the legislature so that they could call their product "Process Butter." Whenever the consumer in this state gets a package of butter which has stamped on it "Process Butter," he will know that it is renovated butter which has been subjected to the process above described. Whenever process butter is so advertised or displayed, as it is required to be by law, under the name "Process Butter," the consumer should not be deceived into believing that he is getting butter made by some new process. He is simply getting renovated butter which is absolutely the poorest and most unwholesome butter that there is on the market. Do not be deceived by the process butter fraud.

STORE YOUR OWN EGGS.

BY J. W. HELME.

Fresh eggs are now selling in local markets from 15 to 18 cents a dozen. The consumer is rejoicing, the farmer is disgusted with it and the cold storage man is busily engaged in filling his warehouse with April eggs which are called the best on the market for storage purposes. Next winter the cold storage man will be selling eggs from 35 to 40 cents. The consumer will be growling at the storage man and swearing off on the use of eggs. The farmer when he sees his 15 cent eggs passed at 35 to 40 cents, will think that he is being wronged and yet a very simple remedy lies in the hands of both producer and consumer. Each class if he wishes to absorb to himself the profits now made by storage warehouses, can do so very simply and easily by storing his own eggs.

A great many methods have been tried by food authorities to obtain some simple process of preserving eggs and the one that is now universally endorsed by the best authorities for the preservation of eggs, is by placing them in a solution of water glass or Silicate of Soda. The Maine Experiment Station found that eggs preserved in this way at the end of eleven months were not distinguishable from fresh eggs either in taste or nutritive value. Physical and chemical examination of such eggs showed no apparent depreciation in taste, quality or nutritive value. The process is very simple and any private individual can store eggs under this system.

Water glass, known to the chemists as Silicate of Soda, is a thick, gelatinous-appearing liquid. To preserve eggs, it is diluted with ten parts of water. The water should first be boiled and then cooled. Into this for every five quarts of water, one pint of water glass should be added and thoroughly mixed. This solution should be placed in some pail or can that can be sealed after the process of preservation is over. A half gallon glass fruit jar will hold 14 to 15 eggs. The solution should cover the eggs. If larger receptacles are wanted, small lard pails or large lard cans which have a tight cover can be used. These pails or cans should be coated inside with a warm solution of paraffin and after the eggs are placed in them and the solution covers them, the covers should be placed on tight and the edges sealed with paraffin. This prevents the evaporation of the solution which might expose the eggs to the air. After the receptacles are filled, the eggs should be stored in a cool place.

Water glass sells at wholesale for 40 cents a gallon and at retail for 10 cents a pound or about 25 cents a quart. The proportion used should be ten parts of water to one part of water glass. One gallon of this solution will cover six dozen eggs. By this manner eggs can be preserved at the cost of about one cent per dozen. The Experiment Stations find that eggs preserved in this way are superior to cold storage eggs and we recommend a trial of this method by producers and consumers as being one that will give them a profit of 50% upon the money invested. April eggs are the best for storage although May eggs are just as good if the weather remains cool. The eggs should be as fresh as possible and clean but they should not be washed unless it is necessary. If consumers desire a No. 1 quality of egg next winter at a reasonable price, they will do well to store eggs in water glass this month.

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of March and April, 1914:

Ahmeek, Alamo, Alanson, Albion, Amble, Ann Arbor, Baldwin, Bark River, Battle Creek, Bay City, Big Rapids, Boyne City, Brant, Brimley, Bruce, Calumet, Casnovia, Cass City, Cedar Springs, Cement City, Centerville, Charlotte, Cheboygan, Chelsea, Clare, Clark Lake, Clio, Coldwater, Coleman, Coopersville, Coral, Crystal Falls, Daggett, Davison, Dearborn, Detroit, Dodgeville, Dowagiac, Dundee, Eaton Rapids, Ellsworth, Elmwood, Engadine, Escanaba, Essexville, Fenwick, Flint, Gowen, Grand Rapids, Harvey, Hermansville, Hillsdale, Holland, Homer, Houghton, Howard City, Howell, Ida, Ionia, Iron Mountain, Iron River,

Ishpeming, Jackson, Jones, Kalamazoo, Kalkaska, Keganic, Lansing, Laurium, Litchfield, Ludington, Mackinac, Marion Springs, Marquette, Mayville, Middleton, Midland, Milan, Mohawk, Muskegon, Nadeau, Nashville, Newaygo, Newberry, New Haven, Newport, Niles, North Adams, Otter Lake, Ovid, Owosso, Palatka, Paris, Parma, Paw Paw, Pentoga, Petoskey, Pierson, Pigeon, Pinconning, Pontiac, Port Huron, Ravenna, Reed City, Rexton, Richmond, Rives Junction, Romeo, Royal Oak, Rudyard, Saginaw, St. Charles, St. Ignace, St. Johns, Salem, Sand Lake, Scottville, Sault Ste. Marie, South Boardman, South Haven, South Rockwood, Stambaugh, Stanwood, Stephenson, Stony Creek, Sullivan, Superior, Traverse City, Trout Lake, Trufant, Twin Lakes, Utica, Waldenburg, Waldron, Wayne, Ypsilanti, Zeeland.

PROSECUTIONS.

Since beginning of fiscal year, July 1, 1913.

Cases pending March 1, 1914.....	18
Cases commenced since said date....:	69

CASES DISPOSED OF.

Before examining magistrates:	
Defendants bound over	11
Defendants discharged	5
In trial courts:	
Defendants convicted	53
Defendants acquitted	2
Cases pending May 1, 1914.....	27

In the case pending in circuit court, county of Genesee, against John Bazley, charged with using sulphites in the manufacture of Hamburg Steak, March 3, defendant discharged.

In the case pending in superior court, city of Grand Rapids, against Giovan B. Russo, charged with conducting an insanitary bakery, April 30, defendant entered a plea of guilty. Fined \$50 and costs.

In the case pending in justice court, city of Lansing, against John Bazley, charged with selling sausage not stamped which contained cereal. Case dismissed.

In the case pending in recorder's court, city of Detroit, against W. S. Carroll, charged with selling lard compound without stamping, March 9, defendant convicted. Fined \$25.

In the case pending in recorder's court, city of Detroit, against Chas. W. Rodgers, charged with selling colored oleomargarine, March 24, defendant acquitted.

In the case pending in municipal court, city of Kalamazoo, against

Peter Sliter, charged with using sulphites in the manufacture of Hamburg Steak. March 3, defendant entered a plea of guilty. Fined \$100.

In the case pending in justice court, city of Hillsdale, against Wm. H. Croose, charged with selling sausage containing an excessive amount of cereal. Defendant bound over to circuit court for trial. March 13, defendant entered a plea of guilty. Sentence suspended to October term of court.

In the case pending in justice court, city of Hillsdale, against Alfred J. Colvin, charged with selling sausage containing an excessive amount of cereal. Defendant bound over to circuit court for trial. March 13, defendant entered a plea of guilty. Sentence suspended to October term of court.

In the case pending in justice court, city of Hillsdale, against George Gavaris charged with selling adulterated milk. March 20, defendant acquitted.

In the case pending in justice court, city of Hancock, against Dan A. Holland, charged with selling sausage containing an excessive amount of cereal. Case nolle prossed.

Complaint was made February 26, in justice court, city of Hillsdale, against Wm. W. Cooper, of the firm of Croose & Cooper, charged with selling sausage containing an excessive amount of cereal. Defendant waived examination and was bound over to circuit court for trial. March 31, defendant entered a plea of guilty. Sentence suspended to October term of court.

Complaint was made March 5, in police court, city of Jackson, against Jay Richmond, charged with selling adulterated milk. Defendant entered a plea of guilty and was fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Edwin A. Tripp, charged with selling adulterated milk. March 28, defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in justice court, city of Jackson, against Clyde A. Tripp, charged with the sale of adulterated milk. Defendant entered a plea of guilty and was fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Walter J. Daniels, charged with selling adulterated milk. March 6, defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Bartley Killgallin, charged with selling adulterated milk. March 27, defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against George N. Ford, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Frank A. Coleman, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Samuel Boyce, charged with selling insanitary milk. Defendant entered a plea of guilty. Fined \$6.15 costs.

Complaint was made March 5, in police court, city of Jackson, against James E. Tanswell, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Peter Michael, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Alex Savoy, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against George Bernard, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against George Polopolos, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5 in police court, city of Jackson, against Tom Chopores, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Rebecca James, charged with selling adulterated milk. Defendant entered a plea of guilty and was fined the costs.

Complaint was made March 5, in police court, city of Jackson, against George Rores, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 5, in police court, city of Jackson, against Thomas Donley, charged with selling adulterated milk. Case pending.

Complaint was made March 5 in police court, city of Jackson, against O. S. Mosher, charged with handling buttermilk in insanitary utensils. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made March 5, in police court, city of Jackson, against John O. Gilbert, charged with violation of the insanitary milk and cream law. Defendant entered a plea of guilty. Fined \$16.19 costs.

Complaint was made March 5, in justice court, city of Saginaw, against Henry Laux, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made March 5, in justice court, city of Saginaw, against Mike Roth, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made March 5, in police court, city of Saginaw against Michael W. Kunderger, charged with using sulphites in the manufacture of Hamburg Steak. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made March 10, in justice court, of Boyne City, against Louis Galinsky, charged with selling diseased pork. March 17, defendant bound over to circuit court of Charlevoix county for trial. Case pending.

Complaint was made March 11 in justice court, city of Boyne City, against Joel Johnston, charged with selling diseased horse meat. Defendant entered a plea of guilty and was sentenced to serve 90 days in jail.

Complaint was made March 11 in justice court, city of Boyne City, against Joel Johnson charged with selling diseased horse meat. Case pending.

Complaint was made March 11, in justice court, city of Zeeland, against Ed. Hemmeke, charged with selling adulterated milk. Defendant entered a plea of guilty and was fined \$25 and costs.

Complaint was made March 11, in justice court, city of Zeeland, against H. W. Eleman, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made March 12, in justice court, city of Midland, against Wm. H. Short, charged with selling oleomargarine without displaying sign. April 27, defendant bound over to circuit court for trial. April 29, defendant convicted. Stay of proceedings granted until June 12.

Complaint was made March 16, in justice court, city of Iron River, against Fred Nault, charged with serving oleomargarine without displaying sign. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made March 16, in police court, city of Detroit, against O. A. Little, charged with selling Tr. iodine not in conformity with legal standard. Case pending.

Complaint was made March 16, in justice court, city of Iron River, against John Erey, charged with selling renovated butter without stamping same. Case pending.

Complaint was made March 16, in police court, city of Detroit, against B. H. Fanning, charged with selling Spirits Peppermint not in conformity with legal standard. Case pending.

Complaint was made March 17, in municipal court, city of Kalamazoo, against M. E. Gamble, charged with selling spirits of peppermint not in conformity with legal standard. April 14, defendant discharged.

Complaint was made March 18, in justice court, city of Hillsdale, against Ralph E. Baxter, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made March 19, in justice court, city of Hillsdale, against Harry A. Mack, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$4.20 costs.

Complaint was made March 19, in justice court, city of Hillsdale, against A. I. Haskins, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made March 19, in justice court, city of Hillsdale, against Cassius M. Sawrey, charged with selling insanitary milk. Defendant entered a plea of guilty. Fined \$4 costs.

Complaint was made March 24, in justice court, city of Houghton, against Henry Martinmaki, charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made March 25, in justice court, city of Albion, against E. L. Moore, charged with selling Tr. iodine not in conformity with legal standard. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made March 27, in police court, city of Jackson, against Richard Wirsing, charged with selling adulterated sausage. Defendant entered a plea of guilty. Fined \$10.

Complaint was made April 1, in justice court, city of Traverse City, against Chas. E. Pulver, charged with selling sausage containing an excessive amount of cereal. Defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made April 1, in justice court, city of Traverse City, against Joseph Maxbauer, charged with selling sausage containing an excessive amount of cereal. Defendant entered a plea of guilty and was fined \$100 and costs.

Complaint was made April 1, in justice court, city of Traverse City, against Joseph Vransy, charged with using sulphites in the manufacture of Hamburg Steak. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made April 1, in justice court, city of Traverse City, against Glen Lutz, charged with using sulphites in the manufacture of Hamburg Steak. Defendant entered a plea of guilty and was fined \$25 and costs.

Complaint was made April 1, in justice court, city of Escanaba, against

Hugo Breitenbach, charged with selling sausage which contained an excessive amount of cereal. Case pending.

Complaint was made April 1, in police court, city of Detroit, against F. G. Lafer, charged with deceptive advertising. April 10, defendant bound over to recorder's court for trial. Case pending.

Complaint was made April 1, in police court, city of Detroit, against F. G. Lafer, charged with deceptive advertising. April 10, defendant bound over to recorder's court for trial. Case pending.

Complaint was made April 2, in police court, city of Detroit, against F. W. Gordon, charged with selling camphor liniment not in conformity with legal standing. Case pending.

Complaint was made April 7, in justice court, city of Sault St. Marie, against Albert Wheatley, charged with selling oleomargarine without displaying legal sign. Case pending.

Complaint was made April 7, in justice court, city of Sault Ste. Marie, against E. C. Reidy, charged with selling renovated butter without stamping same. Case pending.

Complaint was made April 7, in justice court, city of Sault Ste. Marie, against W. T. Tapert, Mgr. Cornwell Beef Co., charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made April 7, in justice court, city of Sault Ste. Marie, against J. A. Roberg, charged with selling oleomargarine without displaying legal sign. Case pending.

Complaint was made April 9, in justice court, city of Cheboygan, against Patrick Guire, charged with selling diseased beef. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made April 13, in justice court, city of Zeeland, against Arend Brouwer, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$17 and costs.

Complaint was made April 14, in justice court, city of Zeeland, against John B. Slagh, charged with delivering milk in insanitary cans. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made April, 14, in justice court, city of Zeeland, against Marcus Vinkemulder, charged with delivering milk in insanitary cans. Defendant entered a plea of guilty and was fined \$5 and costs.

Complaint was made April 14, in justice court, city of Zeeland, against Klass Van de Berg, charged with delivering milk in insanitary cans. Defendant entered a plea of guilty and was fined \$5 and costs.

Complaint was made April 14, in justice court, city of Zeeland, against

John J. Smith, charged with selling milk from insanitary cans. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made April 14, in justice court, city of Zeeland, against Henry Kruithof, charged with selling milk from insanitary cans. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made April 17, in justice court, city of Ishpeming, against Steve Melka, charged with selling sausage containing an excessive amount of cereal. Case dismissed on payment of costs.

Complaint was made April 21, in justice court, city of Ludington, against Lewis Eliasohn, charged with selling sausage containing an excessive amount of cereal. Defendant entered a plea of guilty and was fined \$100 and costs.

Complaint was made April 21, in justice court, city of Ludington, against Elmer Abramhson, charged with selling process butter and not stamping same. Defendant entered a plea of guilty and was fined \$25 and costs.

Complaint was made April 22, in justice court, city of Albion, against George Howard, charged with selling adulterated sausage. April 23, defendant bound over to circuit court for trial. Case pending.

Complaint was made April 22, in justice court, city of Albion, against James B. Smith, charged with selling adulterated sausage. April 23, defendant bound over to circuit court for trial. Case pending.

Complaint was made April 23, in justice court, of Rogers City, against Max Tulgetck, charged with selling frozen and rotten potatoes. Defendant entered a plea of guilty. Fined \$10.

Complaint was made April 23, in justice court, of Rogers City, against Henry Lamb, charged with selling milk from cows fed on refuse. Defendant entered a plea of guilty. Fined \$10.

Complaint was made in justice court, city of Dowagiac, against Clare F. Pugsley, charged with selling sausage containing an excessive amount of cereal. April 23, defendant waived examination and was bound over to circuit court.

Complaint was made in justice court, city of Dowagiac, against Clarence Squires, charged with selling sausage containing an excessive amount of cereal. April 23, defendant waived examination and was bound over to circuit court for trial.

May 1, 1914.

Hon. James W. Helme,
Dairy and Food Commissioner,
Lansing, Michigan.

Dear Sir:—I herewith hand you the report on the work done in the laboratory during the months of March and April.

A total of 243 samples were examined, 171 of which were found to comply with the statute, while 72 samples were found to be adulterated, misbranded or formed the part of an illegal sale.

In the report of the laboratory for January and February, I called attention to a sample of Frozen Eggs and made some explanation in regard to this food product. In this report another sample of Frozen Eggs appears, which was manufactured by a Chicago firm and procured in Detroit. These eggs like the other samples proved upon examination to consist wholly or in part of decomposed, putrid, infected, tainted or rotten animal substance.

Thirteen samples of Flour were examined during the two months, 4 of which were found to be misbranded. Three of them were misbranded for the reason that the sack did not contain 24½ lbs. of flour as stated on the label. One of them did not have the net weight stamped on the sack in compliance with the net weight clause of the general food law.

The season of the year is here when Linseed Oil is being used in painting, decorating, etc. It will be noted that nine samples of this product were examined during these two months, 4 of which were found to be adulterated. As these samples were all unofficial samples, the appended report does not show the manufacturer. However, in most cases the correspondence accompanying these samples showed that they were manufactured in Cleveland, Ohio, by the same firms that we have found so many times before placing adulterated Linseed Oil on the Michigan market. It would seem advisable to make a special effort to collect samples of Linseed Oils manufactured by these concerns and to institute prosecutions wherever we find dealers handling adulterated products. We have spent more than one year in educational work on Linseed Oil and have distributed thousands of bulletins exposing all manufacturers of adulterated Linseed Oils. However, this does not seem to stop the traffic and I believe a few prosecutions would have a wholesome effect in stamping out the sale of adulterated oils in this state.

Four samples of Maple Sugar and twelve samples of Maple Syrup were examined and reported upon. One sample of Maple Sugar was found to consist wholly of cane or beet sugar colored to imitate maple sugar, while one unofficial sample of Maple Syrup contained absolutely no maple flavor whatever and was not a pure maple syrup. In this connection you will note that we also examined a sample of sugar which was manufactured by H. W. Hart, of Nashville, Michigan. This sample was declared adulterated and misbranded for the reason that the label "Michigan Sugar" means according to trade custom Maple Sugar, for which Michigan is well known, whereas in truth and fact the product itself consisted wholly or in part of cane or beet sugar. This method of labeling a product of this nature it seems to me is deceptive and misleading. The product itself is a brown color very near that of maple sugar and when called "Michigan Sugar" it at once infers that it is maple sugar.

A good example of unfair trade competition is shown in sample U-65, a sample of Salad Dressing, manufactured by the Hay Manufacturing Company of Detroit. It seems that there is a concern in Detroit known as the Hay Preserving Company who manufacture, among other things, Salad Dressing, and who place on their label a statement from which one would infer that the container contains six ounces of Salad Dressing. The Hay Manufacturing Company have adopted a name very similar to the Hay Preserving Co. and also manufacture Salad Dressing and place on their label a statement from which one would infer that their container contains six ounces, but they are able to sell their six ounces of Salad Dressing at a lower price than the other concern. In looking for a reason for this we found that the statement "Net weight six ounces, advp." on the bottle of the Hay Manufacturing Company was not the true net weight but that there was contained in the bottle less than six ounces, namely, 4.6 ounces.

Thirty-five samples of sausage were examined, 19 of which were found to be adulterated. The appended report shows that the majority contained more than 2% of cereal that being the quantity allowed by law.

Yours truly,
F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Butter.....	17	7	10
Candy.....	3	3	0
Cherries.....	1	1	0
Coffee.....	3	3	0
Condensed milk.....	2	0	2
Cream.....	15	15	0
Eggs.....	1	0	1
Flavoring preparations.....	6	6	0
Flour.....	13	9	4
Grape juice.....	1	1	0
Hamburg steak.....	2	2	0
Horse radish.....	1	1	0
Jelly.....	2	2	0
Lard.....	15	9	6
Linseed oil.....	9	5	4
Maple sugar.....	4	3	1
Maple syrup.....	12	11	1
Meat.....	7	3	0
Milk.....	71	61	10
Oleomargarine.....	7	1	6
Olive oil.....	2	2	0
Pickles.....	1	1	0
Relish.....	1	1	0
Salad dressing.....	1	0	1
Salt.....	1	1	0
Sausage.....	35	16	19
Spinach.....	1	0	1
Sugar.....	1	0	1
Sugar butter, etc.....	2	2	0
Syrups.....	4	3	1
Turpentine.....	3	0	3
Vinegar.....	3	2	1
Totals.....	243	171	72

ANALYSES OF SAMPLES.

BUTTER.

No. 29239, G-1069. Sample of butter procured from E. C. Reidy, Sault Ste. Marie. Sample is renovated butter. Package not stamped.

No. 29426, F-153. Sample of process butter procured from Elmer Abramhson, Ludington. Package not stamped.

No. 29521, A-19. Sample of "butter" procured from Leo Rahnhofer, 1556 Mack Ave., Detroit. Sample is oleomargarine artificially colored.

No. 29526, G-1079. Sample of "butter" procured from Fred Nault, Iron River. Sample is oleomargarine artificially colored. Legal sign not displayed.

No. 29527, G-1080. Sample of butter procured from John Erey & Son, Iron River. Sample is renovated butter. Package not stamped.

No. 29690, G-1085. Sample of butter procured from Pappas Bros., Sault Ste. Marie. Sample is renovated butter. Package not stamped.

No. 29691, G-1086. Sample of "butter" procured from P. E. Gallagher, St. Ignace. Sample is renovated butter. Package not stamped.

No. 29692, G-1087. Sample of butter procured from Oliver Vallier, St. Ignace. Sample is renovated butter. Package not stamped.

No. 29693, G-1088. Sample of butter procured from P. W. Murray, Est., St. Ignace. Sample is renovated butter. Package not stamped.

No. 29862, Y-178. Sample of "butter" procured from Chas. Howell, 621 Jefferson St., Bay City. Sample is oleomargarine.

CONDENSED MILK.

No. 29258, B-3. Sample of condensed milk manufactured by Reid, Murdock & Co., Chicago. Not properly labeled.

No. 29985, D-202. Sample of Dundee Condensed Milk manufactured by the Oatman Condensed Milk Co., Dundee, Ill. Direction for diluting milk not in conformity with statute.

EGGS. (FROZEN.)

No. 29361, U-60. Sample of frozen eggs manufactured by Feilchenfeld & Aaron, Chicago, and procured from Chris Schmidt Co., Detroit. Eggs are adulterated for the reason that they consist wholly or in part of decomposed, putrid, infected, tainted or rotten animal substance.

FLOUR.

No. 29625, F-159. Sample of flour manufactured by the Voigt Milling Co., Grand Rapids. Sack does not contain $24\frac{1}{2}$ lbs. as stated on the label.

No. 29626, F-160. Sample of flour manufactured by the Voigt Milling Co., Grand Rapids. Sack does not contain $24\frac{1}{2}$ lbs. as stated on the label.

No. 29770, B-26. Sample of flour manufactured by the Voigt Milling

Co., Grand Rapids. Sack does not contain $24\frac{1}{2}$ lbs. as stated on the label.

No. 29875, F-162. Sample of flour manufactured by the Muskegon Milling Co., Muskegon. Weight not stamped on sack.

LARD AND LARD COMPOUNDS.

No. 29235, F-142. Sample of lard procured from Louis Hoelzoey, Grand Rapids. Product is lard compound. Package not stamped.

No. 29425, F-152. Sample of lard compound procured from Oscar Balin, Ludington. Lard compound not stamped.

No. 29427, F-154. Sample of lard compound procured from Elmer Abramhson, Ludington. Lard compound not stamped.

No. 29701, F-161. Sample of lard procured from Propok Kyselka, Traverse City. Product is lard compound. Package not stamped.

No. 29752, B-21. Sample of lard procured from the Hub Mercantile Co., Cheboygan. Product is lard compound not properly stamped.

No. 29767. Unofficial sample of lard. Product is lard compound.

LINSEED OIL.

No. 29330. Unofficial sample of raw linseed oil. Not a pure linseed oil.

No. 29337. Unofficial sample of boiled linseed oil. Not a pure linseed oil.

No. 29647. Unofficial sample of boiled linseed oil. Sample is highly adulterated.

No. 29712. Unofficial sample of linseed oil. Highly adulterated with a petroleum product.

MAPLE SUGAR.

No. 29645, P-1200. Sample of maple sugar manufactured by H. W. Hart, Nashville, and procured from Orville Ide, Nashville. Product is not maple sugar but consists wholly or in part of cane or beet sugar.

MAPLE SYRUP.

No. 29596. Unofficial sample of maple syrup. Absolutely no maple flavor.

MILK.

No. 29365, P-1157. Sample of milk procured from A. I. Haskins, Osseo, RFD No. 28. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29366, P-1158. Sample of milk procured from H. A. Mack, Jonesville, RFD No. 8. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29409, P-1176. Sample of milk procured from R. E. Baxter, Hillsdale. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29412, P-1179. Sample of milk procured from A. I. Haskins, Hillsdale. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29413, P-1180. Sample of milk procured from A. I. Haskins, Hillsdale. Above standard in specific gravity. Below standard in butter fat and total solids. Sample is not normal milk.

No. 29482, N-47. Sample of milk produced by Arend Brouwer, Zeeland, RFD. Below standard in specific gravity, butter fat and total solids. Contains about 17% added water.

No. 29495, I-227. Sample of milk procured from Arthur Graves, Midland. Below standard in butter fat and total solids. Sample has been skimmed and watered.

No. 29531, I-232. Sample of milk procured from D. Stratton, Caro. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29758. Unofficial sample of milk. A part of the cream has been removed.

No. 29921, N-51. Sample of milk procured from Alfred Carter, Chesaning. Below standard in butter fat and total solids.

OLEOMARGARINE.

No. 29238, G-1068. Sample of oleomargarine procured from Wheatley Bros., Sault Ste. Marie. Legal sign not displayed.

No. 29240, G-1070. Sample of oleomargarine procured from J. A. Roberg, Sault Ste. Marie. Legal sign not displayed.

No. 29497, I-229. Sample of oleomargarine procured from Wm. H. Short, Midland. No sign displayed.

No. 29525, G-1078. Sample of oleomargarine procured from Joseph Parolari, Iron River. Legal sign not displayed.

No. 29528, G-1081. Sample of oleomargarine procured from Salmi & Co., Stambaugh. No sign displayed.

No. 29753, B-22. Sample of oleomargarine procured from L. Tallman, Cheboygan. No sign displayed.

SALAD DRESSING.

No. 30028, U-65. Sample of salad dressing manufactured by the Hay Manufacturing Co., Detroit. Misbranded in that the statement "Net weight 6 ozs. avd" on the label is not the true net weight.

SAUSAGE.

No. 29053, G-1064. Sample of pork sausage manufactured and sold by D. A. Holland, Hancock. Cereal 7.77%. Contains an excessive amount of cereal and water. Package or product not stamped.

No. 29331, G-1072. Sample of bologna sausage manufactured by Henry Martinmaki, Hancock. Cereal 7.35%. Sample contains an excessive amount of cereal. Package or product not stamped.

No. 29341, F-148. Sample of sausage manufactured by Lewis Eliasohn, Ludington. Cereal 7.22%. Product contains an excessive amount of cereal and water. Package or product not marked or stamped.

No. 29416, G-1075. Sample of bologna sausage manufactured by Steve Melka, Ishpeming. Cereal 7.42%. Product contains an excessive amount of cereal. Package or product not marked or stamped.

No. 29429, P-1182. Sample of bologna sausage manufactured by the Saginaw Beef Co., Jackson, and procured from W. L. Bullen, Parma.

Sample contains an excessive amount of cereal. Package or product not stamped. Cereal 6.40%.

No. 29459, G-1076. Sample of frankfurt sausage manufactured by Steve Melka, Ishpeming, and procured from Chas. Dorais, Marquette. Cereal 7.49%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29538, G-1082. Sample of pork sausage procured from Nelson & Carlson, Iron Mountain. Product contains cereal. Package or product not stamped.

No. 29568, P-1189. Sample of sausage manufactured by Richard Wirsing, Jackson. Cereal 2.34%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29569, P-1190. Sample of sausage manufactured by Richard Wirsing, Jackson. Cereal 2.67%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29572, P-1193. Sample of sausage manufactured by Richard Wirsing, Jackson. Cereal 3.57%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29573, P-1194. Sample of sausage manufactured by Richard Wirsing, Jackson. Cereal 4.52%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29638, G-1083. Sample of pork sausage manufactured and sold by Nick Gunter, Escanaba. Cereal 7.48%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29639, G-1084. Sample of bologna sausage manufactured and sold by Nick Gunter, Escanaba. Cereal 3.24%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29727, P-1215. Sample of sausage procured from Harlan Lacky, Dowagiac. Cereal 5.25%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29728, P-1216. Sample of sausage manufactured and sold by Pugsley & Squires, Dowagiac. Cereal 3.69%. Product contains an excessive amount of cereal.

No. 29754, B-23. Sample of sausage procured from J. A. Garrow, Cheboygan. Cereal 3.33%. Product contains an excessive amount of cereal.

No. 29755, B-24. Sample of sausage procured from J. A. Garrow, Cheboygan. Cereal 2.51%. Product contains an excessive amount of cereal.

No. 29827, P-1217. Sample of frankfurt sausage manufactured and sold by the Howard Meat Co., Albion. Cereal 2.97%. Contains an excessive amount of cereal. Package nor product not stamped.

No. 29829, P-1219. Sample of bologna sausage manufactured and sold by the Howard Meat Co., Albion. Cereal 3.38%. Product contains an excessive amount of cereal. Package or product not stamped.

SPINACH.

No. 29294. Unofficial sample of spinach. Sample contains particles of dirt, dead grass, straw and shavings.

SUGAR.

No. 29615, P-1199. Sample of "Pure Michigan Sugar" manufactured

by H. W. Hart, Nashville, and procured from E. C. Carrington, Albion. Adulterated and misbranded.

SYRUP.

No. 29391, I-222. Sample of Hubinger White Syrup manufactured by J. C. Hubinger, New Haven, Conn., sold by Harnit & Hewitt, Toledo, and procured from A. L. Ely, Litchfield. Misbranded.

TURPENTINE.

No. 29336. Unofficial sample of turpentine. Sample contains about 20% of a petroleum product.

No. 29530. Unofficial sample of turpentine. Adulterated with about 50% mineral oil.

No. 29646. Unofficial sample of turpentine. Sample is highly adulterated.

VINEGAR.

No. 29504, B-12. Sample of vinegar procured from F. B. Long, Sand Lake. Acidity 1.93%. Low in acidity.

DRUG INSPECTIONS.

The following places were visited by the drug inspector of the Department during the months of March and April, 1914:

Albion, Allegan, Ashley, Battle Creek, Bay City, Benton Harbor, Berlin, Big Rapids, Bronson, Burlington, Burr Oak, Butternut, Carson City, Cassopolis, Cedar Springs, Centerville, Colon, Concord, Coopersville, Dearborn, Detroit, Dowagiac, East Tawas, Eaton Rapids, Edwardsburg, Flint, Fowler, Gladwin, Gobles, Goodrich, Grand Ledge, Grand Rapids, Greenville, Hamtramck, Homer, Howard City, Hubbardston, Jackson, Kalamazoo, Kent, Lansing, Lawton, Marcellus, Marshall, Mendon, Middleton, Mt. Morris, Muir, Muskegon, Nashville, Niles, Omer, Otsego, Owendale, Pewamo, Pigeon, Pinconning, Pompeii, Portland, Quincy, Richland, St. Joseph, Sand Lake, Saranac, Sheridan, Standish, Stanton, Stanwood, Sterling, Sturgis, Tawas City, Tekonsha, Three Rivers, Turner, Vermontville, Vicksburg, Wayland, Wayne, White Pigeon, Zeeland.

May 1, 1914.

Hon. James W. Helme,
Dairy and Food Commissioner,
Lansing, Michigan.

Dear Sir:— I herewith beg to submit my report for March and April, 1914.

During the two months 138 official drug samples were taken up by the Drug Inspectors, Mr. Jones and Mr. Bugbee. Forty-six of the 138 samples failed to meet the requirements of the drug law and were therefore condemned. Thirty out of the 138 samples, consisting of Fluid Extract of Opium Concentrated, Fluid Extract of Nux Vomica, Pare-

goric, Tablets of Codeine, Morphine and Nitro-glycerine, were in the original manufacturer's packages obtained through a druggist from the leading drug houses of Detroit. It is gratifying to note that only two samples of this lot were condemned. From this investigation it appears that the retailer should be held accountable rather than the manufacturer when the sample is taken from an opened package.

It was found necessary to commence proceedings against five druggists who failed to improve their products after having been warned by this Department.

Yours truly,
A. R. TODD,
Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Aspirin tablets.....	8	8	0
Camphor liniment.....	7	3	4
Elbix iron, quinine and strychnine.....	1	1	0
Fluid extract opium (Conc.).....	3	3	0
Fluid extract nux vomica.....	5	5	0
Fowler's solution.....	1	1	0
Paregoric.....	7	6	1
Seidlitz powders.....	3	3	0
Soap liniment.....	4	3	1
Sweet oil.....	4	3	1
Spirits camphor.....	14	10	4
Spirits nitre.....	8	5	3
Spirits peppermint.....	13	5	8
T. T. Codeine.....	4	4	0
T. T. Morphine sulphate.....	6	6	0
T. T. Nitroglycerine.....	3	1	2
T. T. Codeine sulphate.....	3	3	0
Tr. Belladonna leaves.....	1	1	0
Tr. Iodine.....	38	16	22
Tr. Opium.....	4	4	0
Zinc oxide ointment.....	1	1	0
Totals.....	138	92	46

ANALYSES OF SAMPLES.

CAMPHOR LINIMENT.

No. 29423, Z-291. Sample of camphor liniment manufactured and sold by E. L. Fritz, Muskegon Heights. Camphor 12.61%. Low in camphor.

No. 29456, Z-295. Sample of camphor liniment manufactured and sold by the Erwin Drug Co., Battle Creek. Camphor 16.6%. Low in camphor.

No. 29515, Q-338. Sample of camphor liniment manufactured and sold by A. S. Larabee, Flint. Camphor 18.675%. Low in camphor.

No. 29660, Q-345. Sample of camphor liniment manufactured and sold by F. W. Gordon, Detroit. Camphor 3.486%. Low in camphor.

PAREGORIC.

No. 29358, Z-282. Sample of paregoric manufactured and sold by Weinman-Matthews Co., Jackson. Morphine .0304 gms. Low in morphine.

SOAP LINIMENT.

No. 29457, Z-298. Sample of soap liniment manufactured and sold by J. L. Bullock, Three Rivers. Low in camphor and soap.

SWEET OIL.

No. 29601, Q-342. Sample of sweet oil manufactured by Northrup, Robertson & Carrier, Lansing, and procured from T. L. Thiel, Pigeon. Sample consists wholly or in part of cottonseed oil. Not properly labeled.

SPIRITS CAMPHOR.

No. 29356, Z-280. Sample of spirits camphor manufactured by Dr. J. Chmelnicki, Somerville, Mass., and procured from A. Syc, Kalamazoo. Camphor 2.075%. Low in camphor and contains added water.

No. 29417, Z-285. Sample of spirits camphor manufactured and sold by George F. Baker, 451 Carrier St., Grand Rapids. Camphor 5.06%. Low in camphor.

No. 29455, Z-294. Sample of spirits camphor manufactured and sold by J. N. Gustin, Marshall. Camphor 8.3%. Low in camphor.

No. 29509, Q-332. Sample of spirits camphor manufactured and sold by McKeighan Drug Co., 1301 Saginaw St., South, Flint. Camphor 9.13%. Low in camphor.

SPIRITS NITRE.

No. 29513, Q-336. Sample of spirits nitre manufactured and sold by J. F. Martin, 100 Washington Ave., Bay City. Ethyl nitrite 2.95%. Low in ethyl nitrite.

No. 29600, Q-341. Sample of spirits nitre procured from Earl G. Abbott, Sterling. Ethyl nitrite 2.78%. Low in ethyl nitrite.

No. 29602, Q-343. Sample of spirits nitre procured from T. L. Thiel, Pigeon. No ethyl nitrite present.

SPIRITS PEPPERMINT.

No. 29349, Z-277. Sample of spirits peppermint manufactured and sold by George A. Dykemann, Battle Creek. Oil of peppermint 5.0%. Low in oil of peppermint.

No. 29357, Z-281. Sample of spirits peppermint manufactured and sold by W. H. White, Jackson. Oil of peppermint 9.0%. Low in oil of peppermint.

No. 29422, Z-290. Sample of spirits peppermint manufactured and sold by W. D. Day, Caledonia. Oil of peppermint 8.0%. Low in oil of peppermint.

No. 29437, Q-318. Sample of spirits peppermint manufactured and sold by B. H. Fanning, 1330 Mack Ave., Detroit. Oil of peppermint 1.5%. Low in oil of peppermint.

No. 29487, Z-303. Sample of spirits peppermint manufactured and sold by Hyndman & Way, Jackson. Oil of peppermint 7.6%. Low in oil of peppermint.

No. 29516, Q-339. Sample of spirits peppermint manufactured and sold by A. S. Larabee, Flint. Oil of peppermint 7.6%. Low in oil of peppermint.

No. 29697, Z-320. Sample of spirits peppermint manufactured and sold by Fox & Tyler, Coldwater. Oil of peppermint 6.3%. Low in oil of peppermint.

No. 29903, Q-375. Sample of spirits peppermint manufactured and sold by Home Pharmacy, 405 Gratiot Ave., Detroit. Oil of peppermint 1.5%. Low in oil of peppermint.

NITROGLYCERINE.

No. 29682, Q-367. Sample of T. T. Nitroglycerine 1/100 manufactured by F. A. Thompson & Co., Detroit. Adulterated for the reason that its strength or purity falls below the professed standard or quality under which it is sold. Misbranded in that the label on the package bears a statement which is false or misleading.

No. 29684, Q-369. Sample of T. T. Nitroglycerine 1/100 manufactured by Nelson, Baker & Co., Detroit. Adulterated for the reason that its strength or purity falls below the professed standard or quality under which it is sold. Misbranded in that the label on the package bears a statement which is false or misleading.

TR. IODINE.

No. 29348, Z-276. Sample of Tr. Iodine manufactured and sold by DuBois Drug Co., Bellevue. Iodine 5.16 gms. potassium iodide 2.846 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29360, Z-284. Sample of Tr. Iodine manufactured and sold by Hoffman Bros., Jackson. Iodine 5.9 gms., potassium iodide 4.250 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29382, Q-311. Sample of Tr. Iodine manufactured and sold at Peoples Pharmacy, New Baltimore. Iodine 5.07 gms., potassium iodide 4.369 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29421, Z-289. Sample of Tr. Iodine manufactured and sold by James Burt, Grand Rapids. Iodine 5.178 gms., potassium iodide 2.741 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29424, Z-292. Sample of Tr. Iodine manufactured and sold by G. Van Arkel, Muskegon Heights. Iodine 5.66 gms. per 100 cc. Low in iodine.

No. 29438, Q-319. Sample of Tr. Iodine manufactured and sold by B. H. Fanning, 1330 Mack Ave., Detroit. Iodine 6.0 gms., potassium iodide 4.9 gms. per 100 cc. Low in iodine.

No. 29444, Q-325. Sample of Tr. Iodine manufactured and sold by Little & Son, 1609 Jos Campau Ave., Detroit. Iodine 5.71 gms., potassium iodide 3.374 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29458, Z-299. Sample of Tr. Iodine manufactured and sold by Dr. Bryant Weed, Centerville. Iodine 5.33 gms., potassium iodide 0.3 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29507, Q-330. Sample of Tr. Iodine manufactured and sold by W. A. Toomey, Flint. Iodine 6.09 gms. per 100 cc. Low in iodine.

No. 29603, Q-344. Sample of Tr. Iodine manufactured and sold by Jones Drug Co., Detroit. Iodine 6.34 gms. per 100 cc., potassium iodide none. No potassium iodide present.

No. 29695, Z-318. Sample of Tr. Iodine manufactured and sold by Karl H. Nelson, Dowagiac. Iodine 7.6 gms., potassium iodide 9.384 gms. per 100 cc. Contains an excessive amount of potassium iodide.

No. 29699, Z-322. Sample of Tr. Iodine manufactured and sold by John Dekruif & Co. 1000 Grandville Ave., Grand Rapids. Iodine 7.0 gms., potassium iodide 10.5 gms. per 100 cc. Contains an excessive amount of potassium iodide.

No. 29864, Z-326. Sample of Tr. Iodine manufactured and sold by F. M. Fisk, Cassopolis. Iodine 5.965 gms., potassium iodide 6.723 gms. per 100 cc. Low in iodine and contains an excessive amount of potassium iodide.

No. 29866, Z-328. Sample of Tr. Iodine manufactured and sold by Sheldon Coleman, Lawton. Iodine 8.8 gms., potassium iodide 11.17 gms. per 100 cc. Contains an excessive amount of iodine and potassium iodide.

No. 29868, Z-330. Sample of Tr. Iodine manufactured and sold by F. N. Maus, Kalamazoo. Iodine 7.0 gms., potassium iodide .68 gms. per 100 cc. Low in potassium iodide.

No. 29901, Q-373. Sample of Tr. Iodine manufactured and sold at Belvidere Pharmacy, 2210 Gratiot Ave., Detroit. Iodine 5.63 gms., potassium iodide 2.581 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29971, Z-331. Sample of Tr. Iodine manufactured and sold by Geo. F. Fairman, Big Rapids. Iodine 10.9 gms., potassium iodide 8.413 gms. per 100 cc. Contains an excessive amount of iodine and potassium iodide.

No. 29975, Z-355. Sample of Tr. Iodine manufactured and sold by G. [illegible] Union City. Iodine 2.79 gms., potassium iodide 1.212 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30030, Q-378. Sample of Tr. Iodine manufactured and sold by Geo. T. Cimmi, 368 Rivard St., Detroit. Iodine 3.34 gms., potassium iodide 1.423 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30032, Q-380. Sample of Tr. Iodine manufactured and sold by F. L. Schloeder, 1157 Chene St., Detroit. Iodine 5.07 gms., potassium iodide 5.172 gms. per 100 cc. Low in iodine.

No. 30034, Q-382. Sample of Tr. Iodine manufactured and sold by J. C. Berridge, 525 Saginaw St., North, Flint. Iodine 11.16 gms., Potassium iodide 1.425 gms. per 100 cc. Contains an excessive amount of iodine and is low in potassium iodide.

No. 30035, Q-383. Sample of Tr. Iodine manufactured and sold by Zimmerman & Ottaway, Flint. Iodine 8.3 gms., potassium iodide 2.921 gms. per 100 cc. Contains an excessive amount of iodine and is low in potassium iodide.

To the Sealers of Weights and Measures:

The Moneyweight Scale Co. of Chicago sells scales for the Dayton Company of Ohio. In past years they have sold two types of Dayton scales known as Numbers 61 and 63. The charts on those scales are

wrong. The Moneyweight Scale Co. had an injunction issued against Lieutenant Austin of Detroit enjoining him from condemning these scales. The case was carried to the Supreme Court. The moneyweight Scale Co. won on the ground that the state law did not give a city authority to condemn charts. The courts of Massachusetts and Ohio rendered strong decisions against the Dayton 61 and 63. Our law provides for the testing of computing charts in the following words in Section 5, "appliances and accessories connected with any and all such instruments." We are going to condemn the Dayton 61 and 63 and are going to ask you to do so for the following reasons: that while the scale may show the correct weight, the computing chart does not always indicate the correct money value of the commodity weighed. If you will notice the first two or three columns, the values are repeated and if you will make some experiments by placing weights on the scale—1 oz. at 30c a pound will give you 4 c, etc.

The state inspectors will give the dealer his choice of painting the inside of the glass black which exposes the money values and leaves the weight indications clear, or of putting in a correct chart, or getting a new scale.

Yours respectfully,

BURR B. LINCOLN,

Deputy Dairy and Food Commissioner.

To the Manufacturers and Users of Fruit Baskets, Boxes, Hampers and Packages:

Many inquiries reach this office as to what we are going to do about peach and other fruit packages, baskets, boxes and hampers, etc. After carefully looking up the matter, the department has decided to ~~rule that~~ the provisions of Section 3, Act No. 162, Public Acts of 1913, shall apply to the above. The law reads that "If, in package form, every package, box, basket, or other container must bear the true net measure, etc." The term "if in package form" is held to mean any box, basket, package, hamper, etc., the contents of which cannot readily be seen or inspected when such package is prepared for market, that is, that all of the different styles of fruit packages covered with netting or otherwise, which are shipped to any point in Michigan and offered for sale there, shall be stamped plainly on the outside with the true net measure in terms of quarts or parts of a bushel. As the Federal people are also demanding this for interstate shipments, it can be done for both. This department will stop the sale of any fruits sold unless this is done.

Yours truly,

BURR B. LINCOLN,

Deputy Dairy and Food Commissioner.

To Sealers of Weights and Measures:

One of the County Weights and Measures officials sent in an inquiry of how to obtain the aluminum seals that are used to seal computing scales. As nearly all computing scales have no place upon which to stamp, the only other way that they can be stamped without lead seals

is by sticking a sticker on them. As the mucilage on the sticker is apt to dry and thus cause the sticker to fall off, the proper way to seal them is with aluminum lead seals and a wire. As the dies for making these seals cost \$25, the cities and counties probably will not feel like investing in one. The state already has one on hand and we will furnish the seals to the sealers of weights and measures at the approximate cost, which will be about \$3.50 per thousand, and whatever the cost of transportation will be. This does not include the wire. Please send orders direct to the Dairy and Food Department.

Self-measuring pumps for kerosene and gasoline should not be sealed unless the adjusting nut is covered with a cap, as without a cap it gives the dealer a chance to manipulate it if he should so desire. The Bowser people agree to furnish the sealers with these sets of seals at from 5 to 6c a pump and the sealers can then re-sell them. If the local sealers so desire, they can buy these seals of the Bowser people and re-sell them. Take the matter up direct with S. F. Bowser & Co., Inc. Ft. Wayne, Ind.

The Weights and Measures Dept. will be glad to hear from you at any time in regard to any of the problems which confront you. Watch for this month's bulletin.

Yours truly,
Burr B. Lincoln,
Deputy Dairy and Food Commissioner.

SCALES EXAMINED DURING THE MONTHS OF MARCH AND APRIL, 1914.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
G. A. Aldrich & Co.	Hillsdale.	1		
C. W. Chappel & Co.	Hillsdale.	1		
Nicholas Cotsonis	Hillsdale.	2	1	
Fay W. Elliott.	Hillsdale.	1	1	1
Ford Foote.	Hillsdale.	1		3
Goodrich, Chandler & Hallock.	Hillsdale.	3		
Bud Heller.	Hillsdale.	1		2
Henry Katzenmeyer.	Hillsdale.			1
S. Lyons.	Hillsdale.	1		
McLaughlin & Swift.	Hillsdale.	1		5
F. S. Shiley.	Hillsdale.	1		
M. Watkins.	Hillsdale.	1	1	1
George Dickson & Son.	Howell.	1		
V. E. Hill.	Howell.	1		
Howell Lumber & Coal Co.	Howell.	*1		
Jones Bros.	Howell.	*1		
Michigan Milling Co.	Howell.	1		
C. A. Parshall & Co. (Elevator).	Howell.	4		1
C. A. Parshall.	Howell.		1	
A. F. Peavy & Sons.	Howell.			1
Stock Yards, A. A. Ry.	Howell.	1		
H. J. Sweet.	Howell.	1		
Taft & Gordon.	Howell.	1		
Nelson J. Yelland.	Howell.	1		1
E. F. Young.	Howell.			1
City Scales.	Lansing.	1		

* Not sealed.

MEASURES EXAMINED DURING THE MONTHS OF MARCH AND APRIL, 1914.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
Ford Foote.....	Hillsdale.....	8	2	3
Bud Heller.....	Hillsdale.....	5	1	
Henry Katzenmeyer.....	Hillsdale.....	24		
McLaughlin & Swift.....	Hillsdale.....	4		

WEIGHTS EXAMINED DURING THE MONTHS OF MARCH AND APRIL, 1914.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
G. A. Aldrich & Co.....	Hillsdale.....	4		
Fay W. Elliott.....	Hillsdale.....	5		
Ford Foote.....	Hillsdale.....	4		
Goodrich, Chandler & Hallock.....	Hillsdale.....	8		
Henry Katzenmeyer.....	Hillsdale.....	1		
McLaughlin & Swift.....	Hillsdale.....	2		2
F. S. Shiley.....	Hillsdale.....	11		
M. Watkins.....	Hillsdale.....	9	1	8
C. A. Parshall & Co.....	Howell.....	15		
Nelson J. Yelland.....	Howell.....	4		

INDEX TO FEEDING STUFF MANUFACTURERS

WITH LIST OF BRANDS LICENSED FOR THE YEAR
ENDING MARCH 31, 1914.

	Page
Allegan Milling Co., Allegan, Mich. No. 1663. Mixed Poultry Feed	35
Almont Roller Mills, Almont, Mich. No. 1792. "Pride" Dairy Feed	43
Amendt Milling Co., Monroe, Mich. No. 1614. Amco Pigeon Feed	32
No. 1615. Amco Alfalfa Meal	32
No. 1659. Amco Scratch Grain	35
No. 1660. Amco Chick Feed	35
No. 1661. Amco No. 2 Chop	35
American Cotton Hull & Fibre Co., Memphis, Tenn. No. 1616. "Cyclone" Feed Meal	33
American Cotton Oil Co., New York. No. 1710. The American Cotton Oil Co's. "Choice Cottonseed Meal"	38
No. 1790. Red Tag Cotton Seed Meal	43
American Linseed Co., Chicago, Ill. No. 1674. Cleveland Linseed Oil Meal	36
No. 1675. Old Process Linseed Oil Meal	36
American Malting Co., Detroit, Mich. No. 1622. Chicken Feed	33
American Milling Co., Chicago, Ill. No. 1700. Sucrene Scratch Feed	38
No. 1701. Sucrene Dairy Feed	38
No. 1702. Amco Old Process Linseed Meal	38
No. 1703. Sucrene Chick Feed	38
Argo Milling Co., East Jordan, Mich. No. 1750. Bolted Corn Meal	41
Armour Fertilizer Works, Chicago, Ill. No. 1744. Armour's Blood Meal	40
No. 1745. Armour's Meat Meal	40
No. 1746. Armour's Meat Scraps and Cracklings	40
No. 1747. Armour's Granulated Bone	41
Bad Axe Grain Co., Bad Axe, Mich. No. 1683. Egg Brand Poultry Feed	37
No. 1684. "Axe" Brand Ground Feed	37
Bartlett Co., Jackson, Mich. No. 1785. Old Process Meal	43
No. 1788. Michigan "Farmer" Brand Cotton Seed Meal	43
No. 1789. Bartlett's Malt Sugar Grains	43
Battle Creek Health Stock Food Co., Battle Creek, Mich. No. 1812. Battle Creek Health Stock Food	44
J. W. Barwell, Waukegan, Ill. No. 1625. Blatchford's Calf Meal	33
Beck Cereal Co., Detroit, Mich. No. 1601. Royal Hominy Feed	32
No. 1602. Royal Chop Feed	32
F. Becker, Grand Rapids, Mich. No. 1665. "Corn Meal"	35
H. P. Boehm Co., Benton Harbor, Mich. No. 1815. Star Chicken Grains	44
F. W. Brode & Co., Memphis, Tenn. No. 1623. Owl Brand Cotton Seed Meal	33
Buckeye Cotton Oil Co., Cincinnati, Ohio. No. 1635. Buckeye Cottonseed Meal	34

	Page
Callam Mills, Saginaw, Mich.	
No. 1823. Bob White Poultry Feed.....	45
Caruthersville Cotton Oil Co., National Stock Yards, Ill.	
No. 1828. Cotton Seed Meal.....	45
Caughy & Swift Company, Detroit, Mich.	
No. 1825. C C C Scratch Feed.....	45
Champion Feed Milling Co., Lyons, Iowa.	
No. 1605. Champion Molasses Feed Compound.....	32
Chapin & Co., Hammond, Ind.	
No. 1640. Ajax Flakes.....	34
No. 1641. Unicorn Dairy Ration.....	34
Cheboygan Flour Mill Co., Cheboygan, Mich.	
No. 1652. Highland Scratch Feed.....	35
No. 1653. Corn Germ Meal.....	35
Chicago Heights Oil Co., Chicago, Ill.	
No. 1785. Old Process Meal. (Licensed by the Bartlett Co., Jackson).....	43
Clinton Sugar Refining Co., Clinton, Iowa.	
No. 1656. Clinton Corn Gluten Feed.....	35
Commercial Milling Co., Detroit, Mich.	
No. 1679. Coarse Corn Feed Meal.....	36
No. 1680. Henkel's Coarse Brown Feed.....	36
No. 1681. Henkel's Chop Feed.....	37
No. 1682. Henkel's Fine White Feed.....	37
Continental Cereal Co., Peoria, Ill.	
No. 1716. Continental Gluten Feed.....	39
Corn Products Refining Co., New York.	
No. 1637. Buffalo Gluten Feed.....	34
No. 1638. Diamond Gluten Meal.....	34
No. 1639. Diamond Hog Meal.....	34
Corunna Milling Co., Corunna, Mich.	
No. 1739. Corunna Chicken Feed.....	40
Cronenwett & Sons, Detroit, Mich.	
No. 1754. Manhattan Stock Food.....	41
No. 1755. Manhattan Poultry Food.....	41
Darling & Co., Chicago, Ill.	
No. 1717. Darling's Granulated Bone.....	39
No. 1718. Darling's Meat Mash.....	39
No. 1719. Darling's Meat Scraps.....	39
No. 1752. Darling's Standard Meat Scraps.....	41
Darrah Milling Co., Big Rapids, Mich.	
No. 1730. Unbolted Corn Meal.....	39
S. P. Davis, Little Rock, Ark.	
No. 1630. Good Luck Brand Cotton Seed Meal.....	83
C. E. DePuy Co., Stockbridge, Mich.	
No. 1748. Victor Chick Feed.....	41
No. 1749. Peerless Scratch Feed.....	41
Dewey Bros. Co., Blanchester, Ohio.	
No. 1714. Bourbon 3 D Grains.....	39
No. 1715. Eagle 3 D Grains.....	39
The Albert Dickinson Co., Chicago and Minneapolis.	
No. 1688. Globe Scratch Feed.....	37
No. 1689. Pine Tree Scratch Feed.....	37
No. 1690. Crescent Chick Feed.....	37
No. 1691. Sun Chick Starter.....	37
No. 1692. Colonial Developing Feed.....	37
No. 1693. King Pigeon Feed.....	37
No. 1694. Queen Poultry Mash.....	37
No. 1695. Globe Egg Mash.....	37
No. 1696. Alfalfa Meal.....	37
No. 1697. White Cross Scratch Feed.....	37
No. 1698. White Cross Chick Feed.....	37
No. 1699. White Cross Stock Feed.....	88
Douglas & Co., Cedar Rapids, Iowa.	
No. 1657. Douglas Gluten Feed.....	35
No. 1784. Germ Oil Meal.....	43
East St. Louis Cotton Oil Co., National Stock Yards, Ill.	
No. 1740. Choice Cotton Seed Meal.....	40

	Page
Edwards & Loomis Co., Chicago, Ill.	
No. 1760. Red Comb Poultry Food, with Grit.....	41
No. 1761. Red Comb Coarse Chick Feed with Grit.....	41
No. 1762. Red Comb Fine Chick Feed with Grit.....	41
No. 1763. Red Comb Meat Mash.....	41
No. 1764. Red Comb Pigeon Feed with Grit.....	41
No. 1765. Cackle Poultry Feed with Grit.....	42
No. 1766. Excelsior Horse Feed.....	42
No. 1767. Pioneer (Horse and Cattle) Feed.....	42
No. 1768. Cackle Fine Chick Feed with Grit.....	42
No. 1769. Harvest Horse Feed.....	42
No. 1770. Greeno Feed (Horse and Cattle).....	42
No. 1771. Glen Oak Dairy Feed.....	42
H. J. Elliott, Pontiac, Mich.	
No. 1672. Plymouth Rock Scratch Feed.....	36
Evans Milling Co., Indianapolis, Ind.	
No. 1626. Evans Hominy Feed.....	33
Everett, Augenbaugh & Co., Waseca, Minn.	
No. 1795. E A C O Wheat Bran.....	43
No. 1796. E A C O Wheat Middlings.....	43
Fairfield & Kolvoord, Allegan, Mich.	
No. 1826. Mixed Feed.....	45
Farmers Grain & Supply Co., Camden, Ind.	
No. 1773. Veribest X X Chop.....	42
No. 1774. Cracked Corn.....	42
No. 1775. Corn Feed Meal.....	42
Wm. Fluemer, Mt. Clemens, Mich.	
No. 1711. Fluemer's Chicken Feed.....	38
O. Gandy & Co., South Whitley, Ind.	
No. 1753. Standard A Brand Poultry Feed, Chick Size.....	41
No. 1772. Standard A Brand Poultry Feed, Scratch Size.....	42
Grand Rapids Brewing Co., Grand Rapids, Mich.	
No. 1619. Dried Brewers Grains.....	33
Grand Rapids Grain & Milling Co., Grand Rapids, Mich.	
No. 1827. Purity Scratch Feed.....	45
Hankey Milling Co., Inc., Petoskey, Mich.	
No. 1620. "Bran".....	33
No. 1621. "Corn Meal".....	33
Henderson & Son, Grand Rapids, Mich.	
No. 1704. "Corn Meal".....	38
A. L. Hibbard, Sturgis, Mich.	
No. 1664. No. 1 Chop.....	35
Hirst & Begley Linseed Co., Chicago, Ill.	
No. 1731. Hirst & Begley Ground Linseed Cake.....	39
H. M. Hobart & Son, Detroit, Mich.	
No. 1738. P & H Chop Feed.....	40
Humphreys-Godwin Co., Memphis, Tenn.	
No. 1629. Dixie Brand Cottonseed Meal.....	33
Huron Milling Co., Harbor Beach, Mich.	
No. 1603. Jenks Mixed Feed.....	32
No. 1604. Jenks Gluten Feed.....	32
A Hyde & Son, Grand Rapids, Mich.	
No. 1816. Coarse Corn Meal.....	44
Illinois Feed Mills, St. Louis, Mo.	
No. 1709. Feed-Well Mill Feed, Chick Size.....	38
Imperial Cotto Milling Co., Peoria and Chicago, Ill.	
No. 1799. Imperial Cotto Brand Cottonseed Meal.....	44
International Sugar Feed Co., Minneapolis, Minn.	
No. 1824. International Special Dairy Feed.....	45
Kellogg Toasted Corn Flake Co., Battle Creek, Mich.	
No. 1781. Dried Brewers Grains.....	43
No. 1782. Dried Corn Flake Feed.....	43
No. 1783. Broken Wheat Biscuit.....	43

	Page
King Milling Co., Lowell, Mich.	
No. 1633. King Corn and Oat Feed.....	33
No. 1634. King Corn Meal.....	34
No. 1729. Kimco Bran.....	39
Chas. A. Krause Milling Co., Milwaukee, Wis.	
No. 1722. Badger Dairy Feed.....	39
No. 1723. Badger Horse Feed.....	39
No. 1724. Badger Fancy Mixed Feed.....	39
No. 1725. Badger Fancy Middlings.....	39
No. 1726. Badger Hominy Feed.....	39
No. 1727. Badger Evergreen Feed.....	39
No. 1728. Badger Stock Feed.....	39
Larrowe Milling Co., Detroit, Mich.	
No. 1618. Larro-feed.....	33
Laxo Cake Meal Co., Chicago, Ill.	
No. 1607. Old Process Laxo Cake Meal.....	32
Lichtenberg & Fon, Detroit, Mich.	
No. 1794. Farnel Dairy Feed.....	43
McLaughlin, Ward & Co., Jackson, Mich.	
No. 1658. Crown Brand Scratch Feed.....	35
McMorran Milling Co., Port Huron, Mich.	
No. 1608. Protean Feed.....	32
Menominee River Sugar Co., Menominee, Mich.	
No. 1606. Sugar Beet Molasses.....	32
Metzger Seed & Oil Co., Toledo, Ohio.	
No. 1662. Old Process Oil Meal.....	35
Michigan Cereal Co., Port Huron, Mich.	
No. 1791. Pea Bran.....	43
Midland Linseed Products Co., Minneapolis, Minn.	
No. 1705. Midland Brand Old Process Ground Linseed Cake.....	38
Model Milling Co., Port Huron, Mich.	
No. 1797. Model Egg Mash.....	43
No. 1798. Model Scratch Feed.....	44
National Food Co., Fond du Lac, Wis.	
No. 1651. No-Milk Calf Food.....	35
Nelson-Shearhod Co., Little Rock, Ark.	
No. 1787. Crown Brand Cotton Seed Meal.....	43
Northrup-King & Co., Minneapolis, Minn.	
No. 1732. Sterling Baby Chick Starter.....	33
No. 1733. Sterling Chick Feed.....	33
No. 1734. Sterling Hen Feed.....	34
W. C. Nothern, Little Rock, Ark.	
No. 1811. "Bee" Brand Cotton Seed Meal.....	44
Omaha Alfalfa Milling Co., Omaha, Neb.	
No. 1820. Green Meadow Dairy Feed.....	44
No. 1821. Perfection Horse Feed.....	44
A. F. Peavy & Sons, Howell, Mich.	
No. 1780. PV8 Chicken Feed.....	43
Portland Milling Co., Portland, Mich.	
No. 1685. Puritas Corn and Oat Feed.....	37
No. 1686. Champion Mixed Feed.....	37
Postum Cereal Co., Ltd., Battle Creek, Mich.	
No. 1666. G. N. Feeding Stuff.....	36
No. 1667. Cereal Feeding Stuff.....	36
No. 1668. Barley Bran.....	36
No. 1669. C X X Feed.....	36
No. 1670. Special Feeding Stuff.....	36
No. 1671. Flaked Corn Feed.....	36
No. 1786. Chicken Feed.....	43
Pratt Food Co., Philadelphia and Chicago.	
No. 1713. Pratts Baby Chick Food.....	38

	Page
Quaker Oats Co., Chicago, Ill.	
No. 1642. Schumacher Stock Feed.....	34
No. 1643. Schumacher Little Chick Feed.....	34
No. 1644. Victor Feed.....	34
No. 1645. Old Tavern Scratch Feed.....	34
No. 1646. American Hen Scratching Grains.....	34
No. 1647. Quaker Molasses Dairy Feed.....	34
No. 1648. Schumacher Scratching Grains.....	35
No. 1650. Schumacher Calf Meal.....	35
Ralston Purina Co., St. Louis, Mo.	
No. 1687. Purina Molasses Feed.....	37
No. 1707. Purina Mill Feed Chick Size.....	38
No. 1708. Purina Mill Feed Scratch Size.....	38
Roach & Seeber, Houghton, Mich.	
No. 1613. Roseco Scratch Feed.....	32
Scheuren & Mok, Detroit, Mich.	
No. 1776. Eagle Mixed Feed.....	42
No. 1777. Chick Feed.....	42
No. 1778. Pigeon Feed.....	42
No. 1779. Chop Feed.....	42
Joseph Schlitz Brewing Co., Milwaukee, Wis.	
No. 1617. Schlitz Purity Dried Grains.....	33
Sheffield-King Milling Co., Minneapolis, Minn.	
No. 1793. "Fairlybow" Shorts.....	43
Sherwin-Williams Co., Cleveland, Ohio.	
No. 1673. Sherwin-Williams Linseed Oil Meal.....	36
Sprague-Warner & Co., Chicago, Ill.	
No. 1654. Cero Brand Poultry Feed.....	35
No. 1655. Chico Brand Chick Feed.....	35
Spratts' Patent (America) Ltd., Newark, N. J.	
No. 1676. Poultry Food No. 3.....	36
No. 1677. Ground Meal.....	36
Standard Grocer & Milling Co., Holland, Mich.	
No. 1622. Standard Scratch Feed.....	45
Star of the West Milling Co., Frankenmuth, Mich.	
No. 1678. "Special Feed".....	36
David Stott, Detroit, Mich.	
No. 1624. Winner Chop Feed.....	33
F. J. Stuart, Pontiac, Mich.	
No. 1737. Stuart's Mixed Chicken Feed.....	40
Sulzberger & Sons Co., Chicago, Ill.	
No. 1817. Sulzberger's High Protein Tankage.....	44
Swift & Co., Chicago, Ill.	
No. 1609. Swift's Digester Tankage.....	32
No. 1610. Swift's Meat Scraps.....	32
No. 1611. Swift's Meat Meal.....	32
No. 1612. Swift's Blood Meal.....	32
Tennessee Fibre Co., Memphis, Tenn.	
No. 1736. Creamo Brand Cotton Seed Feed.....	40
L. Teweles & Co., Milwaukee, Wis.	
No. 1751. Badger Brand Chicken Feed.....	41
Thunder Bay Milling Co., Alpena, Mich.	
No. 1636. Bradford's Coarse Corn Meal.....	34
Toledo Seed & Oil Co., Toledo, Ohio.	
No. 1632. Major Brand Concentrated Feed.....	33
The Ublko Milling Co., Cincinnati, Ohio.	
No. 1712. Union Grains (Ublko) Biles Ready Rations.....	38
No. 1741. Fourax (XXXX) Distillers Dried Grains.....	40
United States Frumentum Co., Detroit, Mich.	
No. 1631. Frumentum Hominy Feed.....	33
Valley City Milling Co., Grand Rapids, Mich.	
No. 1756. Farmers' Favorite Street Car Feed.....	41
No. 1757. Farmers' Favorite Coarse Corn Meal.....	41
No. 1758. Farmers' Favorite No. 1 Feed.....	41
No. 1759. Farmers' Favorite Cow Feed.....	41

	Page
Watson-Higgins Milling Co., Grand Rapids, Mich.	
No. 1818. Hoyle Scratch Feed.....	44
No. 1819. Fine Corn Meal.....	44
Joseph Wellmans Sons, Port Huron, Mich.	
No. 1735. Mixed Chicken Feed.....	40
West Branch Mfg. Co., West Branch, Mich.	
No. 1706. Street Car Feed.....	38
Western Grain Products Co., Hammond, Ind.	
No. 1627. Hammond Horse Feed.....	33
No. 1628. Hammond Dairy Feed.....	33
Carl C. Wright, Owosso, Mich.	
No. 1720. Occident Chick Feed.....	39
No. 1721. Wright's Mixture.....	39
Wykes & Co., Grand Rapids, Mich.	
No. 1813. Y X Corn Meal.....	44
No. 1814. Y X Brand Choice Cottonseed Meal.....	44

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914).

Labeling No.	Manufacturer and address.	Brand.	Guaranteed Found.	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen—Free extract. Per cent.	Ether extract. Per cent.
1601	The Beck Cereal Co., Detroit, Mich.	Royal Hominy Feed	Guaranteed Found.	10.00	4.00		5.89
1602	The Beck Cereal Co., Detroit, Mich.	Royal Chop Feed	Guaranteed Found.	8.31 8.75	5.81		5.10
1603	The Huron Milling Co., Harbor Beach, Mich.	Jenks Mixed Feed	Guaranteed Found.	12.00 13.83	5.85 7.20	68.32 59.67	4.60 4.60
1604	The Huron Milling Co., Harbor Beach, Mich.	Jenks Gluten Feed	Guaranteed Found.	22.00 20.30	8.00 7.20		3.00 3.13
1605	Champion Feed Milling Co., Lyons, Iowa.	Champion Molasses Feed Compound	Guaranteed Found.	11.00	8.00		
1606	Menominee River Sugar Co., Menominee, Mich.	Sugar Beet Molasses	Guaranteed Found.	9.36		58.56	
1607	Laxo Cakes Meal Co., Chicago, Ill.	Old Process Laxo Cake Meal	Guaranteed Found.	25.00 25.38	12.00 8.75	40.00 44.87	6.00 8.80
1608	McMerran Milling Co., Port Huron, Mich.	Protein Feed	Guaranteed Found.	16.45 22.23	3.63 6.05	66.82 60.72	3.25 2.50
1609	Swift & Co., Chicago, Ill.	Swift's Digester Tankage	Guaranteed Found.	60.00	3.00		8.00
1610	Swift & Co., Chicago, Ill.	Swift's Meat Scraps	Guaranteed Found.	50.00 52.94			8.00 13.20
1611	Swift & Co., Chicago, Ill.	Swift's Meat Meal	Guaranteed Found.	46.00	3.90		6.00
1612	Swift & Co., Chicago, Ill.	Swift's Blood Meal	Guaranteed Found.	57.00			
1613	Rosch & Seiber Co., Houghton, Mich.	Roscoe Scratch Feed	Guaranteed Found.	10.59	2.40	65.46	3.25
1614	Amesett Milling Co., Monroe, Mich.	AMCO Pigeon Feed	Guaranteed Found.	10.00 10.24	5.00 2.06	58.00 74.39	2.50 2.57
1615	Amesett Milling Co., Monroe, Mich.	AMCO Alfalfa Meal	Guaranteed Found.	13.74	34.12	38.04	2.15

DAIRY AND FOOD DEPARTMENT.

No.	Name of Firm	Kind of Feed	Guaranteed Found	20.00	23.00	38.00	3.00
1616	American Cotton Hull & Fiber Co., Memphis, Tenn.	Cyclone Feed Meal	Guaranteed Found				
1617	Jos. Schlitz Brewing Co., Milwaukee, Wis.	Schlitz Purity Dried Grains	Guaranteed Found	24.00 27.04	16.00 15.38	40.00 42.27	6.00 5.28
1618	The Larowe Milling Co., Detroit, Mich.	Larowe-feed	Guaranteed Found	19.00 18.11	14.00 12.85	50.00 52.89	3.00 3.65
1619	Grand Rapids Brewing Co., Grand Rapids, Mich.	Dried Brewers Grains	Guaranteed Found	25.37	13.50	37.78	7.50
1620	Hanky Milling Co., Potosky, Mich.	"Ran"	Guaranteed Found	13.56 15.66	9.57 10.17	57.85 55.98	3.75 4.20
1621	Hanky Milling Co., Potosky, Mich.	"Corn Meal"	Guaranteed Found	9.71 9.98	3.37 3.08	70.24 70.14	5.82 7.25
1622	American Malting Co., Detroit, Mich.	Chicken Feed	Guaranteed Found	12.95	4.90	63.94	3.00
1623	F. W. Brode & Co., Memphis, Tenn.	Owl Brand Cotton Seed Meal	Guaranteed Found	41.00 40.86	10.00 5.00		6.00 8.82
1624	David Stott, Detroit, Mich.	Winner Chop Feed	Guaranteed Found	9.00 9.98	10.00 6.00	70.00 68.30	5.00 5.97
1625	J. W. Barwell, Waukegan, Ill.	Blatchford's Calf Meal	Guaranteed Found	24.00 23.89	6.00 2.60		5.00 5.10
1626	Evans Milling Co., Indianapolis, Ind.	Evans Hominy Feed	Guaranteed Found	10.00	7.00		7.50
1627	Western Grain Products Co., Hammond, Ind.	Hammond Horse Feed	Guaranteed Found	12.00 17.67	12.00 9.95	48.00 53.35	2.80 4.73
1628	Western Grain Products Co., Hammond, Ind.	Hammond Dairy Feed	Guaranteed Found	16.50 17.94	11.00 12.10	48.00 49.51	3.50 4.65
1629	Humphreys-Godwin Co., Memphis, Tenn.	Dixie Brand Cottonseed Meal	Guaranteed Found	38.62 38.68	12.00 11.25	24.00 29.33	6.00 7.74
1630	S. P. Davis, Little Rock, Ark.	Good Luck Brand Cottonseed Meal	Guaranteed Found	41.00 42.53	10.50 8.30	6.50 27.50	8.27
1631	United States Fumantum Co., Detroit, Mich.	"Fumantum Hominy Feed"	Guaranteed Found	9.50 11.20	7.00 3.70	63.00 64.59	7.30 9.18
1632	Toledo Seed & Oil Co., Toledo, Ohio	Major Brand Concentrated Feed	Guaranteed Found	30.00	10.00		
1633	King Milling Co., Lowell, Mich.	King Corn and Oat Feed	Guaranteed Found	10.06 11.64	5.54 1.95	65.09 69.11	6.63 6.65

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914).—Continued.

Licence No.	Manufacturer and address.	Brand.	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1634	King Milling Co., Lowell, Mich.	King Corn Meal.	9.54 11.55	3.60 3.80	66.99 65.77	7.39 8.33
1635	Buckeye Cotton Oil Co., Cincinnati, Ohio.	"Buckeye" Cottonseed Meal.	38.62	12.00	32.00	6.50
1636	Thunder Bay Milling Co., Alpena, Mich.	Bradford's Coarse Corn Meal.	7.87	1.85	75.70	2.70
1637	Corn Products Refining Co., New York.	Buffalo Gluten Feed.	23.00 24.24	8.50 6.10	50.00 53.96	2.00 3.35
1638	Corn Products Refining Co., New York.	Diamond Gluten Meal.	40.00 44.27	4.00 1.70	50.00 44.91	1.50 1.60
1639	Corn Products Refining Co., New York.	Diamond Hog Meal.	18.00 19.95	*13.00 14.70	50.00 43.07	6.50 6.83
1640	Chapin & Co. for Ajax Milling & Feed Co., Hammond, Ind.	Ajax Flakes.	30.00 29.75	14.00 12.10	30.00 37.93	11.00 10.55
1641	Chapin & Co., Hammond, Ind.	Unicorn Dairy Ration.	26.00 25.81	10.00 10.10	50.00 48.09	5.80 5.85
1642	Quaker Oats Co., Chicago, Ill.	Schumacher Stock Feed.	10.00	10.00	60.00	3.25
1643	Quaker Oats Co., Chicago, Ill.	Schumacher Little Chick Feed.	10.00 11.20	5.00 2.95	60.00 67.15	2.50 3.45
1644	Quaker Oats Co., Chicago, Ill.	Victor Feed.	8.00	12.00	60.00	3.00
1645	Quaker Oats Co., Chicago, Ill.	Old Tavern Scratch Feed.	10.00	5.00	60.00	2.50
1646	Quaker Oats Co., Chicago, Ill.	Old Tavern Chick Feed.	10.00	5.00	60.00	2.50
1647	Quaker Oats Co., Chicago, Ill.	American Hen Scratching Grain.	10.00 12.16	5.00 2.40	60.00 66.61	2.50 3.28
1648	Quaker Oats Co., Chicago, Ill.	Quaker Molasses Dairy Feed.	16.00	14.50	50.00	4.50

1649	Quaker Oats Co., Chicago, Ill.	Schumacher Scratching Grains	Guaranteed Found	10.00	5.00	80.00	2.50
1650	Quaker Oats Co., Chicago, Ill.	Schumacher Calf Meal	Guaranteed Found	19.00	3.00	54.00	8.00
1651	National Food Co., Fond du Lac, Wis.	No Milk Calf Food	Guaranteed Found	17.25	6.00		
1652	Cheboygan Flour Mill Co., Cheboygan, Mich.	Highland Scratch Feed	Guaranteed Found	10.89	4.78	68.87	3.27
1653	Cheboygan Flour Mill Co., Cheboygan, Mich.	Corn Germ Meal	Guaranteed Found	9.27	3.02	69.48	6.62
1654	Sprague-Warner & Co., Chicago, Ill. (Quaker Oats Co., Chicago, Ill., Mfrs.)	Cero Brand Poultry Feed	Guaranteed Found	10.00	5.00	60.00	2.50
1655	Sprague-Warner & Co., Chicago, Ill. (Quaker Oats Co., Chicago, Ill., Mfrs.)	Chico Brand Chick Feed	Guaranteed Found	10.00	5.00	60.00	2.50
1656	Clinton Sugar Refining Co., Clinton, Iowa	Clinton Corn Gluten Feed	Guaranteed Found	23.00	8.00	55.00	3.00
1657	Douglas & Co., Cedar Rapids, Iowa	Douglas Gluten Feed	Guaranteed Found	23.00	8.00	55.00	3.04
1658	McLaughlin-Ward & Co., Jackson, Mich.	Crown Brand Scratch Feed	Guaranteed Found	8.75	2.10	58.00	2.00
1659	Amendt Milling Co., Monroe, Mich.	AMCO Scratch Grain	Guaranteed Found	9.54	4.30	66.98	2.97
1660	Amendt Milling Co., Monroe, Mich.	AMCO Chick Feed	Guaranteed Found	11.90	1.60	68.51	2.40
1661	Amendt Milling Co., Monroe, Mich.	AMCO No. 2 Chop	Guaranteed Found	9.19	4.00	69.75	2.35
1662	The Metcalf Seed & Oil Co., Toledo, Ohio	Old Process Oil Meal	Guaranteed Found	9.80	2.12	73.44	2.50
1663	Allegan Milling Co., Allegan, Mich.	Mixed Poultry Feed	Guaranteed Found	7.87	10.95	64.62	2.45
1664	A. L. Hibbard, Sturgis, Mich.	No. 1 Chop	Guaranteed Found	9.98	6.45	70.13	3.92
1665	Ferdinand Becker, Grand Rapids, Mich.	"Corn Meal"	Guaranteed Found	30.00	10.00	43.79	3.72
				30.71	2.50	70.45	5.00
				9.98	3.98	71.05	7.65
				8.84	4.75	67.41	3.75
				7.79	1.55		

*Plus carbon.

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914).—Continued.

Lot No.	Manufacturer and address.	Brand.	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1666	Postum Cereal Co., Ltd., Battle Creek, Mich.	G. N. Feeding Stuff	9.00 12.86	2.50 1.45	63.00 77.26	1.00 1.78
1667	Postum Cereal Co., Ltd., Battle Creek, Mich.	Cereal Feeding Stuff	11.00 12.25	18.00 10.90	52.00 64.01	1.75 2.42
1668	Postum Cereal Co., Ltd., Battle Creek, Mich.	Barley Bran	6.00 13.65	32.00 15.40	45.00 54.62	1.25 2.80
1669	Postum Cereal Co., Ltd., Battle Creek, Mich.	C X X Feed	15.00 17.50	24.00 15.85	42.00 55.09	2.00 2.56
1670	Postum Cereal Co., Ltd., Battle Creek, Mich.	Special Feeding Stuff	9.00 10.32	.75 .87	75.00 77.91	.60 .59
1671	Postum Cereal Co., Ltd., Battle Creek, Mich.	Flaked Corn Feed	8.00 8.14	5.00 1.07	70.00 83.89	1.00 1.10
1672	H. J. Elliott, Pontiac, Mich.	Plymouth Rock Scratch Feed	10.32	3.85	70.13	3.61
1673	The Sherwin-Williams Co., Cleveland, Ohio	Linseed Oil Meal	33.00	8.00		6.00
1674	American Linseed Co., New York	Cleveland Linseed Oil Meal	36.00 38.33	9.00 6.20	42.00 38.32	2.00 3.00
1675	American Linseed Co., New York	Old Process Linseed Oil Meal	34.00 33.78	9.00 7.25	42.00 38.22	6.00 7.95
1676	Spratts' Patent (America), Ltd., Newark, N. J.	Poultry Food No. 3	20.00 20.48	2.00 1.95	60.29	2.50 7.05
1677	Spratts' Patent, Ltd., Newark, N. J.	Ground Meal	43.00 47.25	2.00 2.00		10.00 11.45
1678	Star of the West Milling Co., Frankensmuth, Mich.	"Special Feed"	8.57	8.97	67.27	3.65
1679	Commercial Milling Co., Detroit, Mich.	Coarse Corn Feed Meal	8.50	2.00		
1680	Commercial Milling Co., Detroit, Mich.	Hempel's Coarse Brown Feed	15.00 16.89	8.00 6.00	59.75	4.00 4.23

1881	Commercial Milling Co., Detroit, Mich.	Henkel's Chop Feed.	Guaranteed Found	8.00 8.05	8.00 6.00	66.45	5.00 4.95
1882	Commercial Milling Co., Detroit, Mich.	Henkel's Fine White Feed.	Guaranteed Found	15.00	4.00		3.50
1883	Bad Axe Grain Co., Bad Axe, Mich.	Egg Brand Poultry Feed.	Guaranteed Found	9.01	3.80	68.97	3.22
1884	Bad Axe Grain Co., Bad Axe, Mich.	Axe Brand Ground Feed.	Guaranteed Found	9.61	6.17	66.37	3.25
1885	Portland Milling Co., Portland, Mich.	Puritas Corn and Oat Feed.	Guaranteed Found	10.41	6.38	68.43	4.23
1886	Portland Milling Co., Portland, Mich.	Champion Mixed Feed.	Guaranteed Found	13.56	8.47	59.54	3.58
1887	Ralston Purina Co., St. Louis, Mo.	Purina Molasses Feed.	Guaranteed Found	9.00 10.08	12.00 9.84	59.00 59.74	2.58
1888	Albert Dickinson Co., Chicago, Ill.	Globe Scratch Feed.	Guaranteed Found	10.00 10.13	5.00 3.65	60.00 66.92	2.50 3.90
1889	Albert Dickinson Co., Chicago, Ill.	Pine Tree Scratch Feed.	Guaranteed Found	10.00 9.28	5.00 1.80	60.00 73.34	2.50 2.63
1890	Albert Dickinson Co., Chicago, Ill.	Crescent Chick Feed.	Guaranteed Found	10.00 10.06	5.00 3.75	60.00 73.19	2.50 3.25
1891	Albert Dickinson Co., Chicago, Ill.	Sun Chick Starter.	Guaranteed Found	10.00 12.08	5.00 2.60	60.00 67.19	2.50 2.75
1892	Albert Dickinson Co., Chicago, Ill.	Colonial Developing Feed.	Guaranteed Found	10.00 11.30	5.00 1.54	60.00 67.81	2.50 2.45
1893	Albert Dickinson Co., Chicago, Ill.	King Pigeon Feed.	Guaranteed Found	10.00 10.59	5.00 2.90	60.00 66.91	2.50 3.10
1894	Albert Dickinson Co., Chicago, Ill.	Queen Poultry Mash.	Guaranteed Found	11.00 10.50	10.00 6.00	60.00 66.90	2.50 2.70
1895	Albert Dickinson Co., Chicago, Ill.	Globe Egg Mash.	Guaranteed Found	16.00 15.84	10.00 4.90	50.00 62.06	10.00 3.80
1896	Albert Dickinson Co., Chicago, Ill.	Alfalfa Meal.	Guaranteed Found	12.00 14.44	35.00 30.52	35.00 38.16	1.00 1.03
1897	Albert Dickinson Co., Chicago, Ill.	White Cross Scratch Feed.	Guaranteed Found	10.00 9.54	5.00 3.10	60.00 64.64	2.60 2.62
1898	Albert Dickinson Co., Chicago, Ill.	White Cross Chick Feed.	Guaranteed Found	10.00 9.99	5.00 2.05	60.00 65.01	2.50 2.45

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914).—Continued.

License No.	Manufacturer and address.	Brand.	Guaranteed Found.	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen—Free extract. Per cent.	Ether extract. Per cent.
1699	Albert Dickinson Co., Chicago, Ill.	White Cross Stock Feed.	Guaranteed Found.	10.00 9.54	10.00 5.05	60.00 69.11	3.00 2.85
1700	American Milling Co., Chicago, Ill.	Suarens Scratch Feed.	Guaranteed Found.	10.00 10.32	5.00 2.30	65.00 67.61	3.00 2.97
1701	American Milling Co., Chicago, Ill.	Suarens Dairy Feed.	Guaranteed Found.	16.50 15.75	12.00 11.10	46.00 48.10	3.50 6.50
1702	American Milling Co., Chicago, Ill.	AMCO Old Process Linseed Meal.	Guaranteed Found.	32.00 21.85	11.00 7.80	30.00 39.79	6.00 6.76
1703	American Milling Co., Chicago, Ill.	Suarens Chick Feed.	Guaranteed Found.	10.00 10.93	5.00 2.00	65.00 71.82	3.00 3.25
1704	Henderson & Sons Milling Co., Grand Rapids, Mich.	"Corn Meal"	Guaranteed Found.	8.75 8.93	1.25 .95	73.16 77.52	4.20 3.65
1705	Midland Linseed Products Co., Minneapolis, Minn.	Midland Brand Old Process Ground Linseed Cake.	Guaranteed Found.	32.00 33.78	9.50 7.50	36.80 37.72	5.50 6.85
1706	West Branch Flour Mfg. Co., West Branch, Mich.	Street Car Feed.	Guaranteed Found.	8.23	3.80	71.47	6.00
1707	Ralston Purina Co., St. Louis, Mo.	Purina Mill Feed, Chick Size.	Guaranteed Found.	11.00 10.41	4.00 2.55	65.00 71.99	3.00 3.15
1708	Ralston Purina Co., St. Louis, Mo.	Purina Mill Feed, Scratch Size.	Guaranteed Found.	11.00 10.59	4.00 2.30	65.00 72.26	3.00 3.20
1709	Illinois Feed Mills, St. Louis, Mo.	Feed Well Mill Feed, Chick Size.	Guaranteed Found.	11.00 11.11	4.00 2.62	65.00 69.69	3.00 3.27
1710	American Cotton Oil Co., New York.	"Choice Cotton Seed Meal"	Guaranteed Found.	40.00	10.00	6.40	7.00
1711	Wm. Fluener, Mt. Clemens, Mich.	Fluener's Chicken Feed.	Guaranteed Found.	10.50	4.55	12.30	3.15
1712	The Ubiko Milling Co., Cincinnati, Ohio.	Union Grains (Ubiko) Biles Ready Ration.	Guaranteed Found.	24.00 23.89	9.00 8.70	50.00 48.51	7.00 6.80
1713	Pratt Food Co., Chicago, Ill.	Pratt's Baby Chick Food.	Guaranteed Found.	12.00	3.00	60.00	3.00

1714	Dewey Bros. Co., Blanchester, Ohio.....	Bourbon 3 D Grains.....	Guaranteed Found.....	24.00	14.00	40.00	8.00
1715	Dewey Bros. Co., Blanchester, Ohio.....	Eagle 3 D Grains.....	Guaranteed Found.....	30.00	13.00	30.00	10.00
1716	Continental Cereal Co., Peoria, Ill.....	Continental Gluten Feed.....	Guaranteed Found.....	29.00	10.50		12.50
1717	Darling & Co., Chicago, Ill.....	Darling's Granulated Bone.....	Guaranteed Found.....	20.00 21.61			2.00 1.91
1718	Darling & Co., Chicago, Ill.....	Darling's Meat Mash.....	Guaranteed Found.....	45.00	3.00		.50
1719	Darling & Co., Chicago, Ill.....	Darling's Meat Scraps.....	Guaranteed Found.....	55.00 53.20	3.00		.50 9.15
1720	C. C. Wright, Owosso, Mich.....	Occident Chick Feed.....	Guaranteed Found.....	8.83	3.90	66.97	3.25
1721	C. C. Wright, Owosso, Mich.....	Wright's Mixture.....	Guaranteed Found.....	8.75	3.00	66.45	4.35
1722	Chas. A. Krause Milling Co., Milwaukee, Wis.....	Badger Dairy Feed.....	Guaranteed Found.....	16.00	15.00		2.00
1723	Chas. A. Krause Milling Co., Milwaukee, Wis.....	Badger Horse Feed.....	Guaranteed Found.....	11.00 10.69	12.00 11.77	52.37	2.00 1.92
1724	Chas. A. Krause Milling Co., Milwaukee, Wis.....	Badger Fancy Mixed Feed.....	Guaranteed Found.....	12.50	9.00		4.00
1725	Chas. A. Krause Milling Co., Milwaukee, Wis.....	Badger Fancy Middlings.....	Guaranteed Found.....	12.00	7.00		4.50
1726	Chas. A. Krause Milling Co., Milwaukee, Wis.....	Badger Hominy Feed.....	Guaranteed Found.....	10.00	5.00		6.00
1727	Chas. A. Krause Milling Co., Milwaukee, Wis.....	Badger Evergreen Feed.....	Guaranteed Found.....	13.00 12.24	30.00 18.44	46.86	1.00 1.11
1728	Chas. A. Krause Milling Co., Milwaukee, Wis.....	Badger Stock Feed.....	Guaranteed Found.....	12.00	7.00		5.00
1729	King Milling Co., Lowell, Mich.....	Kimco Bran.....	Guaranteed Found.....	13.56 15.40	8.45 8.35	55.69 58.65	4.00 3.56
1730	Darrah Milling Co., Big Rapids, Mich.....	Unbolted Corn Meal.....	Guaranteed Found.....	7.88	2.15	68.22	4.45
1731	Hirst & Begley Linseed Co., Chicago, Ill.....	H. & B. Ground Linseed Cake.....	Guaranteed Found.....	34.00 31.68	9.00 8.45	36.00 39.17	7.00 10.20

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Continued.

Lot No.	Manufacturer and address.	Brand.	Guaranteed Found.	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1732	Northrup-King & Co., Minneapolis, Minn.	Sterling Baby Chick Starter.	Guaranteed Found.	12.25	4.51	61.87	2.70
1733	Northrup-King & Co., Minneapolis, Minn.	Sterling Chick Feed.	Guaranteed Found.	12.25	4.51	61.87	2.70
1734	Northrup-King & Co., Minneapolis, Minn.	Sterling Hen Feed.	Guaranteed Found.	11.67	4.61	65.06	3.42
1735	Joseph Wellman's Sons, Port Huron, Mich.	Mixed Chicken Feed.	Guaranteed Found.	9.01	3.30	70.88	3.40
1736	Tennessee Fibre Co., Memphis, Tenn.	Creano Brand Cotton Seed Feed.	Guaranteed Found.	20.00 20.21	25.00 22.31	35.00 40.62	4.00 4.66
1737	F. J. Stuart, Pontiac, Mich.	Stuart's Mixed Chicken Feed.	Guaranteed Found.	9.36	4.95	69.50	3.30
1738	H. M. Hobart & Son, Detroit, Mich.	P. & H. Chop Feed.	Guaranteed Found.	8.75	5.22	69.58	3.92
1739	Corunna Milling Co., Corunna, Mich.	Corunna Chicken Feed.	Guaranteed Found.	10.02	3.37	65.65	3.33
1740	East St. Louis Cotton Oil Co., National Stock Yards, Ill.	Choice Cotton Seed Meal.	Guaranteed Found.	41.00 42.00	10.00 8.25	26.00 27.20	7.00 9.55
1741	Ubiko Milling Co., Cincinnati, Ohio.	Fourer X X X Distillers Dried Grains.	Guaranteed Found.	31.00	13.00	35.00	12.00
1742	Cancelled.		Guaranteed Found.				
1743	Cancelled.		Guaranteed Found.				
1744	Armour Fertilizer Works, Chicago, Ill.	Armour's Blood Meal.	Guaranteed Found.	80.00	2.00		
1745	Armour Fertilizer Works, Chicago, Ill.	Armour's Meat Meal.	Guaranteed Found.	90.00	2.00		10.00
1746	Armour Fertilizer Works, Chicago, Ill.	Armour's Meat Scraps and Cracklings.	Guaranteed Found.	55.00 53.90	2.00		12.00 13.85

1747	Armour Fertilizer Works, Chicago, Ill.	Armour's Granulated Bone.....	Guaranteed Found.....	23.00	2.00	.....	2.00
1748	The C. E. DePuy Co., Pontiac, Mich.	Victor Chick Feed.....	Guaranteed Found.....	9.00 9.61	2.50 2.22	67.00 67.92	3.00 3.30
1749	The C. E. DePuy Co., Pontiac, Mich.	Pearless Scratch Feed.....	Guaranteed Found.....	8.31 11.38	2.82 2.73	62.94 68.44	2.45
1750	Argo Milling Co., Charlevoix, Mich.	Boiled Corn Meal.....	Guaranteed Found.....	10.41	3.40	69.44	5.55
1751	L. Teredes & Co., Milwaukee, Wis.	Badger Brand Chicken Feed.....	Guaranteed Found.....	10.00 10.33	5.00 2.72	71.43	2.55 2.65
1752	Darling & Co., Chicago, Ill.	Darling's Standard Meat Scraps.....	Guaranteed Found.....	45.00 46.81	3.00	.....	.50 5.25
1753	O. Gandy & Co., South Whitley, Ind.	Standard A Brand Poultry Feed, Chick Size.....	Guaranteed Found.....	10.00 10.24	2.50 2.47	73.97	2.62
1754	Estate of Frederick Crensenwett, Detroit, Mich.	Manhattan Stock Food.....	Guaranteed Found.....	10.68	2.83	64.36	4.30
1755	Estate of Frederick Crensenwett, Detroit, Mich.	Manhattan Poultry Food.....	Guaranteed Found.....	5.29	5.39	70.62	4.05
1756	Valley City Milling Co., Grand Rapids, Mich.	Farmers' Favorite Street Car Feed.....	Guaranteed Found.....	9.36	3.90	69.55	4.74
1757	Valley City Milling Co., Grand Rapids, Mich.	Farmers' Favorite Coarse Corn Meal.....	Guaranteed Found.....	8.22 9.61	1.17 2.70	73.88 72.34	3.93 5.20
1758	Valley City Milling Co., Grand Rapids, Mich.	Farmers' Favorite No. 1 Feed.....	Guaranteed Found.....	8.93	2.25	72.92	3.90
1759	Valley City Milling Co., Grand Rapids, Mich.	Farmers' Favorite Cow Feed.....	Guaranteed Found.....	14.18	6.30	61.14	4.48
1760	Edwards & Loomis Co., Chicago, Ill.	Red Comb Poultry Feed with Grit.....	Guaranteed Found.....	10.00 9.80	5.00 2.20	60.00 72.00	2.50 2.60
1761	Edwards & Loomis Co., Chicago, Ill.	Red Comb Coarse Chick Feed with Grit.....	Guaranteed Found.....	10.00 10.76	5.00 1.85	60.00 71.09	2.50 3.60
1762	Edwards & Loomis Co., Chicago, Ill.	Red Comb Fine Chick Feed with Grit.....	Guaranteed Found.....	10.00 11.99	5.00 2.20	60.00 68.61	2.50 3.45
1763	Edwards & Loomis Co., Chicago, Ill.	Red Comb Meat Mash.....	Guaranteed Found.....	15.00 13.65	8.00 5.55	45.00 60.95	4.00 4.50
1764	Edwards & Loomis Co., Chicago, Ill.	Red Comb Pigeon Feed with Grit.....	Guaranteed Found.....	10.00 10.15	5.00 2.12	60.00 69.50	2.50 2.48

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Continued.

Loomis No.	Manufacturer and address.	Brand.		Protein. Per cent.	Crude fiber. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1765	Edwards & Loomis Co., Chicago, Ill.	Cackle Poultry Feed with Grit.	Guaranteed Found	9.50 10.15	5.00 2.86	60.00 68.90	2.50 3.29
1766	Edwards & Loomis Co., Chicago, Ill.	Excelsior Horse Feed.	Guaranteed Found	10.00	8.00	60.00	3.00
1767	Edwards & Loomis Co., Chicago, Ill.	Pioneer Horse and Cattle Feed.	Guaranteed Found	7.50	8.00	60.00	2.50
1768	Edwards & Loomis Co., Chicago, Ill.	Cackle Fine Chick Feed with Grit.	Guaranteed Found	9.50 10.59	5.00 2.73	60.00 67.36	2.50 3.02
1769	Edwards & Loomis Co., Chicago, Ill.	Harvest Horse Feed.	Guaranteed Found	9.00	15.00		2.00
1770	Edwards & Loomis Co., Chicago, Ill.	Greeno Feed (Horse and Cattle).	Guaranteed Found	10.00	26.00		.50
1771	Edwards & Loomis Co., Chicago, Ill.	Glen Oak Dairy Feed.	Guaranteed Found	15.00	9.00	50.00	3.50
1772	O. Gandy & Co., South Whitley, Ind.	Standard A Brand Poultry Feed, Scratch Size.	Guaranteed Found	10.00 10.15	2.50 2.35	74.08	2.77
1773	Farmers Grain & Supply Co., Camden, Ind.	Veribest XX Chop.	Guaranteed Found	8.75	6.45	66.45	3.60
1774	Farmers Grain & Supply Co., Camden, Ind.	Cracked Corn.	Guaranteed Found	7.61	2.30	72.04	4.50
1775	Farmers Grain & Supply Co., Camden, Ind.	Corn Feed Meal.	Guaranteed Found	7.79	2.55	70.51	4.20
1776	Schreurs & Mok, Detroit, Mich.	Eagle Mixed Feed.	Guaranteed Found	10.15	4.45	67.15	3.80
1777	Schreurs & Mok, Detroit, Mich.	Chick Feed.	Guaranteed Found	11.11	4.90	67.14	3.10
1778	Schreurs & Mok, Detroit, Mich.	Pigeon Feed.	Guaranteed Found	12.60	5.00	65.85	3.10
1779	Schreurs & Mok, Detroit, Mich.	Chop Feed.	Guaranteed Found	7.70	10.90	65.17	3.18

DAIRY AND FOOD DEPARTMENT.

1780	A. F. Peary & Sons, Howell, Mich.....	PVS Chicken Feed.....	Guaranteed Found.....	9.97	9.47	87.88	3.27
1781	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.....	Dried Brewer's Grains.....	Guaranteed Found.....	25.11	12.75	47.07	6.07
1782	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.....	Dried Corn Flake Feed.....	Guaranteed Found.....	6.91 7.61	.42 .30	78.62 78.94	2.15 2.35
1783	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.....	Broken Wheat Bisuit.....	Guaranteed Found.....	10.15	2.80	76.43	1.07
1784	Douglas & Co., Cedar Rapids, Iowa.....	Douglas Germ Oil Meal.....	Guaranteed Found.....	17.50	8.25	84.24	9.50
1785	J. E. Bartlett Co., Jackson, Mich., for Chicago Heights Oil Co.	Old Process Meal.....	Guaranteed Found.....	25.00	12.00		6.00
1786	Postum Cereal Co., Ltd., Battle Creek, Mich.....	Chicken Feed.....	Guaranteed Found.....	8.00 9.01	15.00 3.00	55.00 70.92	1.00 2.34
1787	Nelson-Shearhod Co., Little Rock, Ark.....	Crown Brand Cottonseed Meal.....	Guaranteed Found.....	38.00 48.06	12.00 16.25	27.24	5.00 6.00
1788	J. E. Bartlett Co., Jackson, Mich.....	Michigan Farmer Brand Cottonseed Meal.....	Guaranteed Found.....	41.00 33.70	10.00 13.10	30.00 28.86	7.00 8.60
1789	J. E. Bartlett Co., Jackson, Mich.....	Bartlett's Malt Sugar Grains.....	Guaranteed Found.....	21.00 16.98	13.00 20.00	46.34	6.00 4.68
1790	American Cotton Oil Co., New York.....	Red Tag Cotton Seed Meal.....	Guaranteed Found.....	38.55 38.15	11.50 12.45	6.17 29.29	7.00 7.96
1791	Michigan Cereal Co., Port Huron, Mich.....	Poa Bran.....	Guaranteed Found.....	6.04	50.25	33.36	.60
1792	Almont Roller Mills, Almont, Mich.....	"Pride Dairy Feed".....	Guaranteed Found.....	16.63 19.03	7.45 6.56	57.72 58.95	3.35 2.77
1793	Sheffield-King Milling Co., Minneapolis, Minn.....	"Fairbow" Shorts and Ground Wheat Screenings.....	Guaranteed Found.....	17.15 16.80	8.96 7.50	55.85	5.20
1794	Lichtenberg & Son, Detroit, Mich.....	"Farman Dairy Feed".....	Guaranteed Found.....	19.05	8.20	49.13	5.06
1795	Everett, Augenbaugh & Co., Waseca, Minn.....	E A C O Wheat Bran.....	Guaranteed Found.....	14.00	12.00		3.00
1796	Everett, Augenbaugh & Co., Waseca, Minn.....	E A C O Wheat Middlings.....	Guaranteed Found.....	15.00	10.00		3.00
1797	Model Milling Co., Port Huron, Mich.....	Model Egg Mash.....	Guaranteed Found.....	15.14	8.75	55.61	4.90

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Concluded.

Mo- No.	Manufacturer and address.	Brand.	Guaranteed Found	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1798	Model Milling Co., Port Huron, Mich.	Model Scratch Feed.	Guaranteed Found	10.32	4.10	68.88	3.45
1799	Imperial Cotto Milling Co., Peoria, Ill.	Imperial Cotto Brand Cotton Seed Meal.	Guaranteed Found	41.00	9.00	6.50	
1800- 1810	Cancelled		Guaranteed Found				
1811	W. C. Nothern, Little Rock, Ark.	Bee Brand Cotton Seed Meal.	Guaranteed Found	41.00 42.38	10.00 7.96	6.50 27.95	8.00
1812	Battle Creek Health Stock Food Co., Battle Creek, Mich.	Battle Creek Health Stock Food.	Guaranteed Found	29.31	8.38	36.23	5.14
1813	Wykes & Co., Grand Rapids, Mich.	Y. X. Corn Meal.	Guaranteed Found	8.31 10.06	2.05 1.92	72.76 74.97	4.32 3.68
1814	Wykes & Co., Grand Rapids, Mich.	Y. X. Brand Choice Cottonseed Meal.	Guaranteed Found	41.00 41.04	10.00 10.06	26.51	7.00 6.70
1815	H. P. Boehm Company, Benton Harbor, Mich.	Star Chicken Grain.	Guaranteed Found	10.85 10.24	3.70 2.75	71.84 67.26	3.30 3.08
1816	A. Hyde & Son, Grand Rapids, Mich.	Coarse Corn Meal.	Guaranteed Found	8.75 9.63	1.95 1.50	73.23 75.72	2.90 3.90
1817	Sulzberger & Sons Co., Chicago, Ill.	Sulzberger's High Protein Tankage.	Guaranteed Found	60.00	1.00		8.00
1818	Watson-Higgins Milling Co., Grand Rapids, Mich.	Hoyle Scratch Feed.	Guaranteed Found	8.49 11.02	2.75 2.90	65.32 64.06	2.90 2.46
1819	Watson-Higgins Milling Co., Grand Rapids, Mich.	Fine Corn Meal.	Guaranteed Found	7.61 8.23	2.20 1.15	74.80 76.17	3.15 3.05
1820	Omaha Alfalfa Milling Co., Omaha, Neb.	Perfection Horse Feed.	Guaranteed Found	11.00	25.00	46.00	1.00
1821	Omaha Alfalfa Milling Co., Omaha, Neb.	Green Meadow Dairy Feed.	Guaranteed Found	10.50	12.00	55.00	2.00

1822	Standard Grocer & Milling Co., Holland, Mich.....	Standard Scratch Feed.....	Guaranteed Found.....	9.35 10.15	3.66 1.40	71.50 68.70	2.78 2.40
1823	Callum Mills, Saginaw, Mich.....	Bob White Poultry Feed.....	Guaranteed Found.....	9.00	4.00	67.00	3.00
1824	International Sugar Feed Co., Minneapolis, Minn.....	International Special Dairy Feed.....	Guaranteed Found.....	15.00	12.00	38.00	4.50
1825	Caughey-Swift Co., Detroit, Mich.....	C O C Scratch Feed.....	Guaranteed Found.....	13.83	1.96	66.42	3.55
1826	Fairfield & Kelvoord, Allegan, Mich.....	Mixed Feed.....	Guaranteed Found.....	10.76	3.55	71.39	3.28
1827	Grand Rapids Grain & Milling Co., Grand Rapids, Mich.....	Purity Scratch Feed.....	Guaranteed Found.....	9.36 9.89	4.62 3.45	67.00 68.06	3.62 4.35
1828	Caruthersville Cotton Oil Co., National Stock Yards, Ill.....	Cotton Seed Meal.....	Guaranteed Found.....	41.00	10.00	26.00	7.00

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surround- ings.
Barry County, March:					
Nashville Creamery Co.....	Nashville.....	A. C. Seibert.....		116,000	Good..
Clinton County, March:					
Durand Creamery Co.....	St. Johns.....	Durand Creamery Co.....			Good..
Durand Creamery Co., Cream Station.	Ovid.....	Meehan Bros.....			Good..
Michigan Dairy Co.....	St. Johns.....	E. F. Day.....			Good..
A. M. Smith Cream Station.....	Ovid.....	A. M. Smith & Co.....			Good..
Delta County, March:					
Bark River Creamery.....	Bark River.....	Phil Labre.....		85,400	Good..
Escanaba Creamery.....	Escanaba.....	M. Henriksen.....	640,900		Good..
A. J. Valentine Milk Depot.....	Escanaba.....	A. J. Valentine.....	600,000		Fair..
Eaton County, March:					
Charlotte Creamery.....	Charlotte.....	W. T. Leonard.....		153,914	Good..
Charlotte Cream Station.....	Charlotte.....	Towars Wayne County Creamery Co.....			Good..
Ionia County, March:					
Breakenridge Creamery Co.....	Fenwick.....	S. Crankshaw.....			
Jackson County, March:					
Clark's Lake Creamery.....	Clark's Lake.....	J. E. Anderson.....	2,419,147	103,412	Good..
F. A. Fowler Creamery.....	Jackson.....	F. A. Fowler.....			Good..
Macomb County, March:					
Disco Skimming Station.....	Disco.....	Utica Coop. Cry. Co.....	442,530		
New Haven Creamery.....	New Haven.....	Detroit Creamery Co.....	1,619,440	77,612	Good..
Richmond Creamery.....	Richmond.....	Wm. Zentgrube.....		122,308	Good..
Romeo Elgin Creamery.....	Romeo.....	L. B. Crawford.....		71,402	Good..
Spencer & Howes Cream Station.....	Richmond.....	Spencer & Howes.....			Good..
Utica Cooperative Creamery.....	Utica.....	Utica Coop. Cry. Co.....	1,373,020	220,799	Fine..
Utica Milk Depot.....	Utica.....	Detroit Creamery Co.....			Good..
Waldenburg Skimming Station.....	Waldenburg.....	Utica Coop. Cry. Co.....	1,373,120		Good..
Menominee County, March:					
C. I. Cook Creamery Co.....	Menominee.....	C. I. Cook.....		21,000	Fair..
Daggett Creamery.....	Daggett.....	T. H. Pasternki.....		42,904	Good..
I. A. L. Creamery.....	Hermansville.....	R. M. Rasmussen.....		44,915	Good..
Nadeau Creamery.....	Nadeau.....	Nadeau Bros. Co.....		91,821	Good..
Stephenson Creamery.....	Stephenson.....	H. E. Jahnke.....		41,409	Good..
Montcalm County, March:					
Sheridan Creamery.....	Sheridan.....	John Dolan.....		80,000	Good..
Spencer & Howes Cream Station.....	Sheridan.....	Harry M. Stebbins.....			Good..
Oakland County, March:					
G. H. King Milk Depot.....	Royal Oak.....	G. H. King.....	81,409		Good..
Pontiac Cooperative Creamery.....	Pontiac.....	F. C. King.....	554,906	11,904	Good..
Ottawa County, March:					
Cooperative Creamery Co.....	Coopersville.....	P. Van Allsburg.....		242,348	Good..
Crystal Creamery.....	Coopersville.....	L. Hinkins.....		150,000	Good..
Saginaw County, March:					
Detroit Creamery Co.....	Easton.....	Frank Crickmore.....			Good..
Durand Creamery Co.....	Easton.....	Frank Ross.....			Good..

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Valv.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean..	Clean..				Clean..		Good..	Clean..	Good..	Good..		91
Clean..	Good..				Clean..		Good..	Clean..	Fair..	Good..	Very good..	90
											Very good..	
Clean..	Clean..			Good..	Clean..		Good..	Clean..	Good..			90
Clean..												
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Fair..	Clean..	Good..	Good..	Fair..	
					Clean..		Fair..	Clean..	Good..	Good..	Fair..	
Clean..	Good..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	Clean..	Good..	Good..	Very good..	
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	Clean..	Good..	Good..	Very good..	94
Clean..				Clean..	Clean..	Clean..	Fair..	Clean..	Good..	Good..		90
												90
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	Clean..	Good..	Good..	Good..	96
Clean..	Clean..	Clean..	Clean..		Clean..	Clean..	Good..		Good..	Good..	Very fair..	
		Clean..	Clean..		Clean..	Clean..		Clean..	Good..	Good..	Fair..	
Clean..	Good..				Clean..	Clean..	Good..	Clean..	Good..	Good..		90
Clean..	Clean..				Clean..	Clean..	Fine..	Clean..	Good..	Good..		90
Clean..					Clean..		Good..	Clean..	Good..	Good..		92
Clean..	Good..				Clean..			Clean..	Good..	Good..		90
Good..					Good..		Good..	Good..	Good..	Good..		90
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..		Good..	Good..	Good..	Good..	Good..	94
Good..	Good..		Good..	Good..	Good..	Clean..	Good..	Good..	Good..	Good..	Good..	91
	Good..		Good..		Good..		Good..	Fine..		Good..		91

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Washtenaw County, March:					
Salem Milk Depot.....	Salem.....	Detroit Creamery Co.....			Good..
Wayne County, March:					
Albrick Bros. Milk Depot.....	Detroit.....	August Albrick.....	780,000		Good..
Medina County Creamery Co.....	Detroit.....	A. E. Stonffer.....		519,000	Fine..
Oakland County Creamery Co.....	Detroit.....	Max Goldberg.....		53,119	Good..
Bay County, April:					
Michigan Creamery Co.....	Pinoconning.....	C. C. Aurand.....			Good..
Tanner Cream Station.....	Pinoconning.....	Geo. Tanner.....		7,000	Good..
Towers Wayne County Creamery.....	Pinoconning.....	O. H. Segerstrom.....			Good..
Urban Bros. Creamery.....	Pinoconning.....	Wm. Urban.....		75,000	Good..
Berrien County, April:					
Niles Creamery Co.....	Niles.....	Carmi Smith.....		157,000	Good..
Branch County, April:					
Jackson City Creamery Cream Station..	Sherwood.....	Jackson City Creamery.....			Good..
Jackson City Creamery Cream Station..	Union City.....	Jackson City Creamery.....			Good..
Jackson City Creamery Cream Station..	Homer.....	Jackson City Creamery.....			Good..
Cass County, April:					
Cassopolis Creamery Co.....	Cassopolis.....	Henry Edinger.....		185,500	Good..
Dowagiac Creamery Co.....	Dowagiac.....	J. S. Green.....		96,608	Good..
Jones Creamery Co.....	Jones.....	C. H. Black.....		110,905	Good..
Vandalia Creamery.....	Vandalia.....	L. Vanantwerp.....		110,084	Fair..
Clare County, April:					
Ann Arbor Creamery Co.....	Farwell.....	C. I. Maurer.....			Good..
Durand Creamery Co.....	Farwell.....	O. Cramer.....			Good..
Medina Creamery Co.....	Clare.....	Geo. Langworthy.....			Good..
Port Huron Creamery Co.....	Clare.....	D. Jennings.....			Fair..
E. Vance.....	Clare.....	E. Vance.....			Fair..
Genesee County, April:					
Freeman Dairy Co.....	Flint.....	L. Freeman.....	3,490,000		Good..
Genesee Cream Station.....	Genesee.....	Shaw & Cooney Cry. Co.....			Good..
Shaw & Cooney Creamery Co.....	Davison.....	Shaw & Cooney Cry. Co.....		100,104	Fair..
Gratiot County, April:					
L. Barber Co.....	Middleton.....	G. A. Giles.....			Good..
Durand Creamery Co.....	Brice.....	Stonebrick Bros.....			Good..
Durand Creamery Co.....	Middleton.....	A. N. Dumas.....			Good..
Sw Yt & Co.....	Middleton.....	Ben Dodge.....			Fair..
Kalamazoo County, April:					
Alamo Valley Creamery.....	Alamo.....	H. M. Walker.....	1,419,000		Good..
Dairymen's Milk Co.....	Kalamazoo.....	W. J. Kendall.....	2,940,340	63,448	Good..
Kalamazoo Creamery Co.....	Kalamazoo.....	H. Weeks.....	2,040,904		Good..
Michigan Butter Co.....	Kalamazoo.....	H. M. Weeks.....		104,224	Good..
Kent County, April:					
Grand Rapids Creamery.....	Grand Rapids.....	Henry Soet.....		165,000	Good..
Kent Creamery.....	Cedar Springs.....	W. H. Fowle.....		125,000	Good..
Rudell Creamery.....	Cedar Springs.....	Rudell Creamery Co.....		100,000	Good..
Beckham Creamery Co.....	Monroe.....	G. W. Beckham.....	1,917,800		Fair..
Dundee Skimming Station.....	Dundee.....	Towers Creamery Co.....			Good..

CREAMERIES.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skin milk tank.	Piping.	Churn.	Engine.	Boiler.		
.....	Clean..	.....	.....	.....	Good..	.....	.....	.....	.....	Good..	Very good..	.....
.....	Clean..	.....	.....	Clean..	Clean..	.....	Good..	Clean..	Good..	Good..	Good..	.....
Clean..	.....	.....	.....	Clean..	Clean..	.....	Good..	Clean..	Good..	Good..	Good..	91
.....
Good..	Good..	.....	.....	Good..	Good..	.....	Good..	Good..	Good..	Good..	.....	90
Clean..	Clean..	Good..	.....	.....	Clean..	.....	Good..	Clean..	Good..	Good..	.....	92
Clean..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean..	Good..	.....	.....	.....	Clean..	.....	Good..	Clean..	Good..	Good..	.....	90
Clean..	Good..	.....	.....	.....	Clean..	.....	Good..	Clean..	Good..	Good..	.....	91
Clean..	Good..	.....	.....	.....	Clean..	.....	Good..	Clean..	Good..	Good..	.....	90
Clean..	Good..	.....	.....	.....	Clean..	.....	Good..	Clean..	Good..	Good..	.....	90
Good..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Good..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....
.....
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	.....	Good..	Clean..	Good..	Good..	Good..	91
Clean..	Good..	.....	.....	.....	Clean..	.....	Good..	Clean..	Good..	Good..	.....	91
.....
.....
.....
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	.....	Good..	Good..	Very good..	.....
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	.....	Good..	Clean..	Good..	Good..	Very good..	92
Clean..	Clean..	Clean..	.....	Clean..	Clean..	.....	Good..	.....	Good..	Good..	Very good..	.....
Clean..	Clean..	.....	.....	Clean..	Clean..	.....	Good..	Clean..	Good..	Good..	.....	90
Good..	.....	.....	.....	Good..	Good..	.....	.....	.....	.....	.....	.....	90
Good..	Good..	.....	.....	Good..	Good..	.....	Good..	Good..	.....	Good..	.....	90
Good..	Fair..	.....	.....	Good..	Good..	.....	Good..	New..	Good..	Good..	.....	90
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Fair..	Clean..	Good..	Good..	Fair..	.....
Clean..	Clean..	Good..	Clean..	Clean..	Clean..	Clean..	Good..	.....	Good..	Good..	Very good..	.....

Name.	Location.	Owner or manager.	Yearly milk receipts pounds.	Make butter, pounds.	Sanitary tags.
Excelsior Creamery Co.	Ida.	W. G. Hoffman.	2,341,559	126,000	Good..
Ida Cream Station.	Ida.	Cloverleaf Cry. Co.			Good..
LaSalle Skimming Station.	LaSalle.	Monroe Butter & Cheese Co.	900,000		Good..
Monroe Butter & Cheese Co.	Monroe.	J. C. Sterling.	1,847,000	62,518	Good..
Newport Milk Station.	Newport.	Towars Creamery Co.			Good..
Spencer & Howes Creamery Co.	Petersburg.	Spencer & Howes.			Fair..
South Rockwood Butter & Cheese Co.	South Rockwood.	J. W. Harris.	1,409,118	59,112	Good..
Straasburg Skimming Station.	Straasburg.	Excelsior Cry. Co.	840,000		Good..
Stoney Creek Skimming Station.	Stoney Creek.	J. C. Sterling.	1,480,000		Fair..
St. Joseph County, April:					
Jackson Creamery Co.	Centerville.	Geo. H. Dual.			Good..
Van Buren County, April:					
Bloomingsdale Creamery Co.	Bloomingsdale.	H. M. Walker.	2,840,561	125,832	Good..
Gobleville Creamery Co.	Gobleville.	Gobleville Creamery Co	8,256,419	317,316	Fair..
Ingraham Sanitary Milk Co.	South Haven.	Ingraham & Son.			Good..
Fred Ott Milk Depot.	South Haven.	Fred Ott.			Good..
Washtenaw County, April:					
Milan Cream Station.	Milan.	Towars Wayne Co. Cry.			Good..
Riverside Creamery.	Milan.	W. F. Allen.	3,000,000		Fair..
Wurster Bros. Milk Depot.	Ann Arbor.	Wurster Bros.	795,000		Good..
Ypsilanti Dairy Association.	Ypsilanti.	S. A. Wiard.	8,916,496	405,315	Good..
Wayne County, April:					
Dearborn Milk Depot.	Dearborn.	Tony Schlaff.	1,215,000		Good..
Inkster Milk Depot.	Inkster.	Detroit Creamery Co.			Good..
Towars Wayne County Creamery Co.	Detroit.	Frank Towar.	16,590,000	950,000	Good..

CREAMERIES.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteuriser.	Valve.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean...	Clean..	Good..	Clean..	.....	Clean..	Clean..	Good..	Clean..	Good..	Good..	Fairly good.	93
Clean...	Clean..	Good..	Clean..	.....	Clean..	Clean..	Good..	Clean..	Good..	Good..	Very good.	93
Clean...	Clean..	Clean..	Clean..	.....	Clean..	Clean..	Good..	Clean..	Good..	Good..	Good.....	93
Clean...	Clean..	Clean..	Clean..	.....	Clean..	Clean..	Good..	Clean..	Good..	Good..	Good.....	93
Clean...	Clean..	Clean..	Clean..	.....	Clean..	Clean..	Good..	Clean..	Good..	Good..	Very fair.	93
Clean...	Clean..	Clean..	Clean..	.....	Clean..	Clean..	Fair..	.....	.....	Good..	Very good.	93
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	Clean..	Good..	Good..	Good.....	92
Clean...	Good..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	Clean..	Good..	Good..	Very good.	92
Clean...	.....	.....	.....	Clean..	Clean..	.....	Good..	.....	Good..	Good..	Good.....	92
Clean...	.....	.....	.....	Clean..	Clean..	.....	Good..	.....	Good..	Good..	Good.....	92
Clean...	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Fair..	.....	Good..	Good..	Fair.....	92
Clean...	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	.....	Good..	Good..	Good.....	92
Clean...	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	Clean..	Good..	Good..	Very good.	92
.....	Good..	.....	.....	.....	Clean..	.....	.....	.....	.....	Good..	Good.....	92
.....	Clean..	Clean..	Clean..	Clean..	Clean..	.....	Good..	Clean..	Good..	Good..	Good.....	92

STATE OF MICHIGAN.

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese, pounds.	Style.
Clinton County, March:					
Ekenburg Cheese Co.	Ovid	Ekenburg Co.			Michigan
Ionia County, March:					
Fenwick Cheese Co.	Fenwick	B. R. Snow	1,328,008	138,463	Michigan Soft.
Jackson County, March:					
Cement City Cheese Factory ...	Cement City	L. G. Miller	484,409	48,514	Michigan Soft.
Menominee County, March:					
Wallie Landree Cheese Factory ..	Menominee	Wallie Landree	598,619	59,619	Michigan Soft.
Montcalm County, March:					
Andrews & Johnson	Sidney	Andrews & Johnson .....			.....
Grafiot County, April:					
Middleton Cheese Factory	Middleton	Geo. S. Hart Co.	800,000		Michigan Soft.
Monroe County, April:					
Straaburg Cheese Co.	Straaburg	Anton Geiger	604,000	60,409	Michigan Soft.
Saginaw County, April:					
Cass River Cheese Co.	Frankenmuth	Hubinger Bros.			Michigan Soft.
Frankenmuth Cheese Co.	Frankenmuth	L. Hubinger	3,000,000	300,000	Michigan Soft.

INSPECTION OF

Name.	Postoffice.	Patron of	Total No. of cows.	No. of cows giving milk.	Daily production of milk in pounds.	Breed.
Kent County, April:						
A. Anderson	Cedar Springs	Earl Griggs	11	10		Graded
Earl Briggs	Cedar Springs	Self	8	4	60	Graded
C. A. Durfey	Cedar Springs	Kent Creamery	20	20		Graded

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
J. A. Gardham.....	Good....	2, good...	.....	.....	.....	.....	20 H. P..	Good.....	.....
B. R. Snow.....	Fair....	2, good...	2, gang....	.....	.....	.....	8 H. P..	Good.....	.....
L. G. Miller.....	Fair....	1, clean...	1, gang....	.....	Fair....	.....	6 H. P..	Very good..	.....
Wallis Landree....	Good....	1, good...	1, gang....	.....	Fair....	Good....	.....	Very good..	.....
Ralph Ives.....	Good....	1, fine....	.....	.....	Good....	.....	10 H. P..	Good.....	.....
Henry Fitzpatrick..	.....	2, fair....	Gang.....	.....	.....	.....	6 H. P..	Good.....	.....
Ben Geiger.....	Very bad.	1, dirty...	1, gang....	.....	Dirty....	.....	10 H. P..	Fair.....	.....
J. Lonsbury.....	Good....	1, good...	Gang.....	.....	Fair....	.....	30 H. P..	Good.....	Artificial.
Earl Murringer....	Good....	3, good...	2, gang....	.....	Fair....	Marshall.	12 H. P..	Good.....	Artificial.

DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Ensilage, hay, cotton seed meal.....	No....	Doors.....	No....	Fair...	Tubular well.
Corn fodder, hay, oats, corn.....	.....	Windows.....	No....	Fair...	Tubular well.
Corn fodder, ensilage, bran.....	Yes....	Doors and hay chute....	Yes....	Yes....	Tubular well.

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employes and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Ann Arbor, March:											
Joe Schwab	75	40	79	65	65	324	Poor.....				
Caro, March:											
Hess Bros	95	85	85	90	100	455	Good.....				
James Mansfield.....	93	90	85	90	80	438	Medium.....				
Coleman, March:											
Ralph Clark.....	85	65	85	95	88	418	Medium.....				
Chas. H. Keyworth.....	75	75	85	88	80	403	Medium.....				
Crystal Falls, March:											
E. C. Alfred.....	77	50	85	90	90	392	Poor.....	4.4	33	13.53	9.13
Gust Bjorkman.....	82	65	70	85	85	387	Poor.....				
Chas. Peterson.....	88	85	75	90	85	423	Medium.....				
Wm. Poyseor.....	100	95	95	100	100	490	Excellent.....	3.8	31.5	12.435	8.635
C. M. Rogers.....	80	90	90	90	100	450	Good.....	4.2	33	13.29	9.09
Jno. Soderman.....	77	80	85	85	90	417	Medium.....				
Hillsdale, March:											
Falley Ball.....	94	88	80	78	86	426	Medium.....				
E. F. Esterline.....	87	80	82	80	98	427	Medium.....				
George Gray.....	60	57	72	70	56	315	Poor.....				
B. Hinkle & J. Stahler.....	97	50	70	76	92	365	Poor.....				
Chas. Lamb.....	77	40	72	70	65	324	Poor.....				
G. W. Scrivens.....	82	74	78	77	86	397	Poor.....				
Wm. Sweeney.....	71	50	70	67	70	328	Poor.....				
Chas. T. Van Aken.....	87	48	78	75	70	358	Poor.....				
Houghton, March:											
August Arvo.....	90	65	80	90	85	410	Medium.....				
Thos. Beattie.....	85	80	75	90	85	415	Medium.....				
Jas. Biscoombe.....	85	65	85	90	90	415	Medium.....				
Jos. R. Bruneau.....	77	60	85	85	90	397	Poor.....				
F. W. Denton.....	100	100	90	95	100	485	Excellent.....	4	33	13.05	9.05
Roy Dunstan.....	95	85	85	95	100	460	Good.....	3.8	33	12.81	9.01
Harry Bros.....	90	80	90	95	100	455	Good.....	4.6	30.5	13.185	8.58
Jno. Huhlu.....	86	80	85	90	90	431	Medium.....	4.4	31	13.03	8.63
Jno. Kutschid.....	90	80	90	90	100	450	Good.....	4	31.5	12.67	8.67
Legis Bros.....	95	90	90	95	100	470	Good.....	4	31	12.55	8.55
Ovid Robillard.....	85	70	85	90	90	420	Medium.....	4.2	31	12.79	8.59
Henry Simon.....	85	75	85	90	90	425	Medium.....				
Jno. Zuercher.....	90	90	85	95	100	460	Good.....	4.6	32	13.52	8.92
Iron Mountain, March:											
Alex. Anderson.....	88	70	75	85	90	408	Medium.....				
Geo. Nicolale.....	67	40	65	70	65	307	Very poor.....				
R. Pollard.....	88	95	85	95	85	443	Medium.....				
Emil Sjorgren.....	83	70	80	75	85	393	Poor.....				
Aug. Wickman.....	90	95	85	90	90	450	Good.....				
Iron River, March:											
R. Baumgartner.....	85	90	90	90	90	445	Medium.....	3.4	30	11.58	8.18
F. W. Byers.....	100	95	95	100	100	490	Excellent.....	3.8	33	12.81	9.01
August Johnson.....	77	60	80	90	85	392	Poor.....				
C. F. Johnson.....	85	85	75	90	80	415	Medium.....				
Mrs. C. Scholtz.....	85	75	80	90	90	420	Medium.....	4	32	12.92	8.925
Jos. Verville.....	75	50	75	85	80	365	Poor.....				

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Marquette, March:											
A. Baker.....	80	65	80	80	90	395	Poor.....				
H. Bergh & Son.....	95	90	90	90	95	460	Good.....	3.6	32	12.57	8.97
Jao. Clark.....	90	85	90	75	100	440	Medium.....	4.2	30	12.54	8.34
W. S. Ewing.....	90	85	90	85	100	450	Good.....				
A. Fambender.....	80	75	85	85	90	415	Medium.....				
L. Guelff.....	95	95	90	90	100	470	Good.....				
H. Jacobson.....	90	85	90	80	90	435	Medium.....				
C. Jensen.....	90	85	80	90	95	440	Medium.....	4	29.5	12.17	8.175
P. Johnson.....	90	90	90	95	100	465	Good.....				
Clinton King.....	90	90	95	95	100	470	Good.....	4	32.5	12.925	8.925
T. Largeness.....	90	85	85	90	95	445	Medium.....	3.6	32	12.32	8.72
Swan Nelson.....	82	85	90	95	90	442	Medium.....				
M. Quandt.....	85	85	90	90	95	445	Medium.....	3.8	30	12.16	8.36
P. Stuer.....	82	75	90	90	95	432	Medium.....	4	31.5	12.57	8.97
F. H. Vandenboom.....	100	85	95	95	100	475	Good.....	4.6	32.5	13.64	9.045
Chas. Wolfner.....	85	75	85	85	90	420	Medium.....				
Midland, March:											
Max Anderson.....	88	92	85	97	97	459	Good.....				
Fred Braley.....	93	85	83	90	82	443	Medium.....				
John Comaford.....	71	77	85	93	92	418	Medium.....				
Chas. Wolfley.....	55	60	83	80	37	365	Poor.....				
Parma, March:											
W. F. Smith.....	70	78	89	78	91	406	Medium.....				
Springport March:											
M. C. Townley.....	79	38	43	70	18	248	Poor.....				
Wayne March:											
Roy Tucker.....	85	85	93	88	42	393	Poor.....				
Ypsilanti, March:											
Cole Bros.....	100	100	79	93	98	470	Good.....				
C. & O. Deake.....	95	93	55	95	80	418	Medium.....				
Bay City, April:											
Jas. Gleason.....	90	70	74	77	85	396	Poor.....				
Jas. Harboursane.....	95	80	100	95	100	470	Good.....				
G. Keisel.....	96	71	77	72	80	396	Poor.....				
John Kircher.....	91	77	79	82	80	409	Medium.....				
H. T. Lagden.....	83	70	77	90	88	408	Medium.....				
T. F. Marston.....	95	88	85	90	75	433	Medium.....				
Wm. Tomhate.....	96	93	83	98	90	460	Good.....				
James Wilder.....	98	93	83	85	90	449	Medium.....				
Ishpeming, April:											
Fred Barrett.....	77	75	85	90	80	407	Medium.....				
H. W. Elson.....	85	80	85	90	80	420	Medium.....				
Arnt Flaa.....	90	85	85	90	80	430	Medium.....	4.2	31	12.79	8.59
Mrs. E. Grund.....	90	90	85	95	80	440	Medium.....	4.4	30	12.78	8.38
Andrew Hanson.....	90	90	85	100	90	455	Good.....	3.8	29.5	11.935	8.135
John Millimaki.....	85	70	80	90	65	390	Poor.....	4	30	12.3	8.3
Aug. Pihlago.....	90	85	80	90	80	425	Medium.....	4	30	12.3	8.3
Thos. Richards.....	90	85	85	100	90	450	Good.....	5	31	13.75	8.75
Jas. Roberts.....	86	77	80	90	75	408	Medium.....	4.2	30	12.54	8.34
Chas. Rowe.....	85	75	80	88	65	393	Poor.....				
Jos. R. Stokoe.....	86	83	80	90	80	419	Medium.....				

STATE OF MICHIGAN.

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Sault Ste. Marie, April:											
A. Bjorklund	90	85	90	90	90	445	Medium				
Mrs. Wm. Hamilton	77	60	85	85	85	392	Poor				
Henry Hanson	85	75	75	90	90	415	Medium	4	32	12.8	8.8
D. Knox	90	90	90	90	85	445	Medium				
Herb Lee	90	95	90	90	100	465	Good	3.6	31	21.07	8.47
Jos. Linke	90	75	85	90	90	430	Medium	3.6	31	12.07	7.75
Jno. McKensie	77	75	90	90	100	432	Medium				
D. J. Perry	85	65	80	90	90	410	Medium	3.8	31.5	12.435	7.875
Jno. Quigley	90	80	90	90	90	440	Medium	4	31.5	12.675	8.675
James Shannon	90	75	90	90	100	445	Medium	3.8	31.5	12.435	8.635
Ed. Sipniewski	90	75	85	90	90	430	Medium	3.6	31	12.07	8.47
Williams & Erickson	85	85	90	90	100	450	Good	3.8	32	12.56	8.76

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1914

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING.

JAMES W. HELME.....COMMISSIONER
BURR B. LINCOLN.....DEPUTY COMMISSIONER
FERN L. SHANNON.....STATE ANALYST
M. J. SMITH.....CHIEF CLERK
A. R. TODD.....DRUG ANALYST

THE NASTY FLY.

BY J. W. HELME.

This is the first of a series of five bulletins which will be issued by this Department on the fly. The second will be released May 6th, third May 8th; fourth May 11th and fifth May 13th. We feel that this is the time of the year when interest should be aroused on the fly question and will greatly appreciate your cooperation. Our slogan—"Safety first."

MR. AND MRS. H. FLY.

Consider the House Fly and his mate. They toil not, neither do they spin, but when it comes to bringing forth posterity, they have got Teddy Roosevelt's hobby beat a mile. About this time Mr. and Mrs. H. Fly leave their winter quarters and hie themselves to the nearest manure pile where Mrs. H. Fly makes her nest and lays 120 eggs at one sitting. As a layer Mrs. Fly has got the White Leghorn beat to a frazzle. In twelve hours these eggs hatch into maggots and unless picked up by the old hen and converted into eggs, they crawl down in the manure and eat this luscious substance for a week. Then after laying dormant for another week, they come out full-fledged flies dressed out in an Easter suit minus the hat and split skirt and proceed to give the race suicide theory another blow in the Solar Plexus.

Every fly killed in May means 1,000,000 less flies in September. Now is the time to swat the fly and swat him hard.

The fly is born in a manure pile. He lunches on it when young, and like most youngsters he fails to rise above his environment. There is no place too filthy to repel a fly. The fly has six legs with 162 hairs on each leg and a small sponge on the bottom of each foot.

In the garbage can, or open privy vault, or on a decayed cat or rat, he wades around soaking up his feet and covering his hairy legs with filth. Then he flies into the dining room and proceeds to scrape off his legs on the bread and wash his feet in the milk. If you don't like this, get a swatter and try to be a Ty Cobb in the Pure Food League. The nearer your swatting average comes to 1000 in May, the less exercise you will have in July swatting flies.

"FLIES ARE DANGEROUS."

Altho filth is bad and not very wholesome, it is not the worst thing flies carry around with them. It has been scientifically demonstrated that one fly can carry over 1,250,000 germs on his legs and body. Mr. Fly is especially equipped for this purpose. His legs, head and body are covered with fine hairs, then add to this the slime and sticky filth that he gathers on him while crawling around open sewers, drains,

manure heaps, outhouses, etc., and you have the finest kind of a germ carrier. He can even take them into his body and they will pass thru without any deleterious effects on himself or the germ. He can carry germs of such diseases as typhoid fever, tuberculosis, infantile paralysis, cholera infantum, etc., either inside or outside of him with the greatest of ease. Dr. L. O. Howard has nicknamed him the "Typhoid Fly" because so many cases of typhoid fever have been caused by his carrying germs of typhoid fever from one sick person to another. These germs are so small you cannot see them without a microscope. It would take 25,000 of them if laid end to end to measure an inch, but the fly that is the guest at your table may be carrying a million of them.

Flies kill more people than wild beasts and poisonous snakes do. Many of these beasts and snakes never get a chance to kill any human being but any one of the millions of flies found in most of our towns and cities has a chance of killing a whole family if he comes into a house carrying typhoid germs.

The chances of Mr. Fly carrying any germs into your house are lessened about 90,000,000 times if you put the quietus on him now.

"PREVENT FLIES FROM BREEDING."

The popular slogan is "Safety First." Why not apply this to the fly. If we can "prevent the fly" this will be accomplished. Like many other things of this nature, it can be done if everybody will do his or her little share. Following are the steps necessary to take to do it:

Screen stables if possible.

Remove the manure at least twice a week.

Keep the manure, while it is in the stable, in a closed bin or pit.

If flies begin to breed in stored manure they may be killed by thoroughly spraying with a solution of copperas (one pound to a gallon) applied at the rate of one gallon a day where one horse is kept. It costs about \$1 per hundred pounds; so that the cost of keeping flies from breeding in a one-horse stable is about one cent a day.

Be sure that you sprinkle the cracks and crevices of the bin or pit, as well as the cracks between the planking of the stall floors.

It is well to abolish old fashioned outhouses where possible. Where this cannot be done a liberal amount of ashes or lime should be used, applied in small amounts daily. Chloride of lime is better than slaked lime, but slaked lime is better than none at all.

Garbage cans should be thoroughly cleaned after emptying and the contents should be sprinkled with crude oil, lime or kerosene oil.

Remember every fly killed now means about 90,000,000 less next summer.

"FLY SCREENS, FLY TRAPS AND FLY POISONS."

In spite of the fact that Mr. Fly has been the subject of thousands of bulletins, lectures, press notices, moving picture shows, etc., we will have thousands of them next summer. The next best thing after preventing the fly is to keep him out of the house, catch him or kill him. Following are some suggestions as to how this may be done:

Keep garbage cans closely covered unless you have a fly-trap attached to them. Such traps may be obtained at most hardware stores.

Screen the doors and windows of your home especially those of the kitchen, dining-room and pantry. If you cannot do this, at least screen the food itself, especially the milk in which germs multiply with more than ordinary rapidity.

Screen sick rooms, or at least the bed of the patient, and do not allow flies to have access to his excreta which should be treated with chloride of lime or some other disinfectant.

Screens are especially needed in towns which have no sewer system, or in which the sewers drain into a stream on the banks of which flies swarm attracted by the filth from the sewers.

If flies do get into the house in spite of screens, kill or trap them.

Sticky fly-paper and a variety of traps may be used, as well as poisoned fly-paper.

A cheap and reliable fly poison, which is not dangerous to human life, is bichromate of potash in solution. It may be bought at any drug store. Dissolve one dram in two ounces of water; add a little sugar and place about the house in shallow dishes.

To clear rooms of flies, use carbolic acid, heating a shovel and pouring on it 20 drops of the poison. The vapor will kill the flies.

Flies pass the winter hidden in cracks and holes in attics and cellars. Many of these may be killed in the spring by the two methods just described.

"JUST POP."

This is a story about "Pop." Not Pop Corn, nor Pop goes the Weasel, nor popping the question, but the small boy's drink known by the name of Pop. From time immemorial the small boy has dissipated on pop. The loud "pop" as the bottle is opened gives a near imitation of July 4th and is as pleasing to the small boy's ear as the pop of the champagne bottle is to the mature man. In fact pop is the small boy's champagne. Pop, as originally discovered, was composed of water charged with carbonic acid gas, sweetened with sugar, flavored with various imitation flavors and colored red, white or brown to tempt the small boy's nickel. It is a first cousin to the red circus lemonade now nearly extinct. At its best it is not much; but now "Big Business" to make more money want to adulterate it.

This is small business for "Big Business."

A few years ago a chemist accidentally discovered in coal tar a drug that was five hundred times sweeter than sugar. This is pretty near as sweet as the Honeymoon. He named it saccharine. A big firm in St. Louis manufactures it. A pound of saccharine costing \$2.00 has the same sweetening power as five hundred pounds of sugar costing \$20.00. An agent of the St. Louis firm at Detroit the other day offered to defend in the courts any manufacturer using it. One firm tried it and was promptly arrested by agents of this department; for saccharine is a drug and has no food value while sugar has a high food value. Hence saccharine decreases the food value of pop and is therefore an adulteration.

The saccharine people claim that saccharine is sometimes prescribed by doctors for Diabetes; that 20% of all the people have this disease and they propose to cure this 20% by giving us all saccharine in our sweetened drinks. Whether it is harmful is a disputed question, several hundred "experts" having testified on both sides before the Federal pure food board according to how they were paid. But whether it is harmful or not, this Department proposes to vigorously prosecute all persons using saccharine in food products. It proposes to preserve to the small boy his pop in its pristine purity. He doesn't want drugs in his pop, he wants sugar. He can get all the coal tar products he wants out of the coloring matter. The Commissioner was a small boy himself once and drank pop. Sometimes he does now—in dry counties.

Moreover, sugar is made in Michigan in the second congressional district and saccharine in Missouri. We are not from Missouri in this instance. Disloyalty to Michigan sugar by Michigan pop manufacturers will be vigorously prosecuted.

THE POOR CREAM PROBLEM.

No doubt many of the creamery operators in Michigan and most all other states have been yearning to see somebody "pop up" and perhaps with one mighty stroke solve the poor cream problem, which is threatening the stability of the dairy industry. However, most of us are firmly convinced that the solving of this problem is not a one man's job nor two, but that it will require the combined efforts and cooperation of everyone interested in the production of American butter. But that it eventually must be, and that it therefore will be solved, we also agree. But one thing is certain, so long as creamery men are willing to pay the price of good cream for poor cream, very little cooperation may be expected from the producer, The Farmer. We, of course, fully understand the conditions under which many creameries are working and that in many instances they are compelled to accept poor cream or suffer loss of patronage.

This Department is doing everything possible with the limited force at its command to prevent the manufacturing into butter, cream that can be classed under our law, as insanitary cream. We are also willing to cooperate with you in doing everything possible along educational lines, that will point out to the farmer wherein he will surely be benefited in bringing only good, sweet, fresh milk and cream to your factories.

The educational scorings being conducted by this Department have been designed principally to point out possible defects, and suggest remedies, and judging from the large number of creameries who are participating in these scorings regularly, it is evident that they are being benefited. The various new features that have been embodied since the inauguration of the present series of scorings have been of much added interest and value. However, there are still many creameries who fail to exhibit a sample of their butter for scoring, claiming that on account of the poor quality of the raw material they are forced to receive, they are unable to make butter that would make a creditable showing. But remember, these scorings are purely educational and not competitive. If the defects in your butter are due to the poor condition of your raw material, then the blame rests with the producer of that poor quality of cream. **AND NOW LISTEN:** In the future, we are going to issue a form letter to the patrons of your creamery, pointing out to them; if you desire; wherein they are to blame for the defects found in your butter and urging them to cooperate with the butter maker in the production of a better grade of butter. Showing them where it will be to their own financial interest to do so. These letters will be sent to the creameries participating in the monthly scorings. These to be mailed or handed out by them. Every effort will be made to phrase these letters so as to bring you only good, clean, sweet, and fresh milk and cream, that will result in a finished product that will be a credit to him and you, and to this great American Dairy Industry. We would be glad to hear from you and receive any suggestions or

comments you care to make relative to this last feature in these scorings.

H. D. WENDT,
In Charge Dairy Manufacturing Division.

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of May and June, 1914:

Adrian, Alba, Albion, Allouez, Alverno, Ann Arbor, Antrim, Applegate, Athens, AuGres, Bad Axe, Battle Creek, Bay City, Bellaire, Belleville, Bergland, Berrien Springs, Bessemer, Big Rapids, Bridgeville, Brighton, Brimley, Bruce's Crossing, Cadillac, Calderwood, Caledonia, Carsonville, Central Lake, Champion, Charlevoix, Charlotte, Chassell, Cheboygan, Clare, Coldwater, Croswell, Dalton, Deckerville, Demmon, Detroit, Dexter, Deward, Diorite, Donaldson, Dowagiac, Downington, Durand, Eagle, East Saugatuck, Elberta, Elkton, Elmira, Engadine, Escanaba, Evart, Ewen, Flint, Foster, Frankfort, Franklin, Frederic, Galesburg, Gay, Gaylord, Germfask, Gladstone, Gladwin, Gouguac Lake, Grand Haven, Grand Rapids, Grass Lake, Grayling, Hancock, Hart, Hartford, Henderson, Hermansville, Hersey, Highland Park, Hillsdale, Hockaday, Holland, Howell, Hudson, Hudsonville, Humboldt, Ionia, Iron Mountain, Ironwood, Ishpeming, Jackson, Kalamazoo, Kearsarge, Kenton, Keweenaw Bay, Lake Linden, Lansing, Lapeer, Laurium, Ludington, McClure, Mancelona, Manistique, Marine City, Marshall, Meyers, Michigamme, Milan, Minden City, Morenci, Mt. Clemens, Mt. Pleasant, Munson, Muskegon, Negaunee, Niles, Novell, Norway, Oak Grove, Opechee, Ovid, Owosso, Painesdale, Palms, Parkville, Paw Paw, Paynesville, Pearl, Pelkie, Petoskey, Pickford, Pinconning, Plymouth, Pompeii, Pontiac, Pt. Huron, Pullman, Quincy, Ramsay, Ransom, Reed City, Richmond, Riggsville, Rives Junction, Rosedale, Royal Oak, Ruth, Saginaw, St. Clair, St. Joseph, Sand Creek, Sand Lake, Sandusky, Sault Ste. Marie, Sidnaw, Soo Junction, South Boardman, South Range, Spalding, Spring Lake, Stony Creek, Thompsonville, Traverse City, Trimountain, Trout Creek, Wakefield, Waldron, Wayne, Whittaker, Willard, Wolverine, Wyandotte, Ypsilanti.

PROSECUTIONS.

Since beginning of fiscal year July 1, 1913.

Cases pending May 1, 1914.....	27
Cases commenced since said date.....	48

CASES DISPOSED OF

Before examining magistrates:	
Defendants bound over	8
Defendants discharged	4
In trial courts:	
Defendants convicted	34
Defendants acquitted	1
Cases pending July 1, 1914	36

In the case pending in recorder's court against Fred Schandt, charged with selling oleomargarine artificially colored. Defendant entered a plea of guilty. Fined \$50.

In the case pending in police court, city of Jackson, against Thomas Donley charged with selling adulterated milk. May 9, defendant acquitted.

In the case pending in justice court, city of Boyne City, against Joel Johnston charged with selling diseased horse meat. Case nolle prossed.

In the case pending in police court, city of Detroit, against B. H. Fanning charged with selling spirits peppermint not in conformity with legal standard. May 5, defendant entered a plea of guilty and was fined \$25.

In the case pending in justice court, city of Escanaba, against Hugo Breitenbach, charged with selling sausage which contained an excessive amount of cereal. Defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in justice court, city of Albion, against George Howard charged with selling adulterated sausage. May 4, defendant entered a plea of guilty. Sentence suspended.

In the case pending in justice court, city of Albion, against James B. Smith, charged with selling adulterated sausage. May 4, defendant entered a plea of guilty. Fined \$100.

In the case pending in justice court, city of Iron River, against John Erey, charged with selling renovated butter without stamping. June 15, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in superior court, city of Grand Rapids, against Henry Daane, charged with selling diseased meat. Case nolle prossed.

Complaint was made May 1 in police court, city of Detroit, against W. A. Porteous, manager Hay Mfg. Co., charged with selling salad dressing on which the net weight was incorrectly stated. Case pending.

Complaint was made May 6 in justice court, city of Ludington, against Chas. Lambrix charged with selling diseased meat. Information held defective. Case dismissed.

Complaint was made May 8 in justice court, city of Negaunee, against John Olilla charged with selling one peck potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made May 11 in justice court, city of Charlotte, against Frank C. Owings charged with intent to sell insanitary milk. May 19, defendant convicted. Fined \$15.

Complaint was made May 11 in justice court, city of Traverse City, against Prokop Kyselka charged with selling adulterated lard. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made May 15 in justice court, city of Escanaba, against Nick Gunter charged with selling sausage containing an excessive amount of cereal. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made May 20 in justice court, city of Zeeland, against H. Laarman charged with using insanitary milk cans. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made May 20 in justice court, city of Zeeland, against Harry Nienhuis charged with using insanitary milk cans. Defendant entered a plea guilty and was fined \$5 and costs.

Complaint was made May 20 in justice court, city of Zeeland, against Garret Lievense charged with using insanitary milk cans. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made May 27 in justice court, city of Detroit, against Max Kohn of Highland Park, charged with using cereal in the manufacture of sausage and not stamping same. Defendant bound over to recorder's court for trial. Case pending.

Complaint was made May 27 in justice court, city of Detroit, against Dell A. Christy of Highland Park, charged with selling sausage containing an excessive amount of cereal. Defendant bound over to recorder's court for trial. Case pending.

Complaint was made May 27 in police court, city of Detroit, against

McBride, Earl & Pollard charged with using saccharine in the manufacture of pop. Case pending.

Complaint was made May 28 in justice court, city of Hillsdale, against Stanley Stauffer charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made May 28 in justice court, city of Hillsdale, against Sherman Rickard charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made May 28 in justice court, city of Hillsdale, against Ed. Ackley, charged with selling insanitary milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made June 6 in police court, city of Sault Ste. Marie, against Abraham Ferris charged with obstructing an inspector in the performance of his duty. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made June 8 in justice court of Laurium, against John H. Roach, Proprietor Central Hotel, charged with serving oleomargarine without displaying sign. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made June 8 in police court, city of Detroit, against John A. Peters charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made June 9 in justice court, city of Dowagiac, against Harlan Lacky charged with selling sausage containing an excessive amount of cereal. Defendant waived examination and was bound over to circuit court for trial. Case pending.

Complaint was made June 9 in recorders court, city of Cadillac, against M. Boersina & Sons charged with selling sausage containing cereal in excess of 2%. Case pending.

Complaint was made June 9 in recorders court, city of Cadillac, against Curtis & Grant charged with selling sausage containing cereal in excess of 2%. Case pending.

Complaint was made June 9 in recorders court, city of Cadillac, against Harry H. Kingsly charged with selling sausage containing cereal in excess of 2%. Case pending.

Complaint was made June 9 in recorders court, city of Cadillac, against McCoy & Marcus charged with selling sausage containing cereal without labeling. Case pending.

Complaint was made June 9 in recorders court, city of Cadillac,

against Frank Gregg charged with selling adulterated milk. Defendant entered a plea of guilty and was fined \$10 and costs.

Complaint was made June 9 in recorders court, city of Cadillac, against Chas. W. Ziegler charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made June 9 in recorders court, city of Cadillac, against Laney & Marquette charged with selling adulterated milk. Defendant entered a plea of guilty and was fined \$10 and costs.

Complaint was made June 10 in justice court, of Frankfort, against Frank W. Palmer charged with conducting an insanitary dairy. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made June 11 in justice court, city of Coldwater, against M. A. Johnson charged with selling insanitary milk. June 23 defendant entered a plea of guilty. Fined \$10.

Complaint was made June 11 in justice court, city of Coldwater, against F. E. Robinson charged with selling adulterated milk. Case pending.

Complaint was made June 11 in justice court, city of Coldwater, against Clark Salisbury charged with selling adulterated milk. June 13 defendant entered a plea of guilty. Fined \$10.

Complaint was made June 11 in justice court, city of Coldwater, against A. C. Hadlock charged with selling adulterated milk. June 15 defendant entered a plea of guilty. Fined \$10.

Complaint was made June 11 in justice court, city of Coldwater, against W. Hallenbeck charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$8.

Complaint was made June 11 in justice court, city of Coldwater, against C. H. Russell charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10.

Complaint was made June 11 in justice court, city of Coldwater, against R. W. Grove charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10.

Complaint was made June 11 in justice court, city of Coldwater, against Frank Chapman charged with selling adulterated milk. June 25 defendant was convicted. Fined \$10.

Complaint was made June 11 in justice court, city of Coldwater against Chas. Murdock charged with selling adulterated milk. June 13 defendant entered a plea of guilty. Fined \$10.

Complaint was made June 11 in justice court, city of Coldwater,

against Leander Clifford charged with selling adulterated milk. June 25 Case dismissed.

Complaint was made June 11 in justice court, city of Coldwater, against A. L. Smith charged with selling insanitary milk. June 25 defendant was convicted and fined \$10.

Complaint was made June 11 in justice court, city of Coldwater, against A. E. Hayward charged with selling adulterated milk. June 13 defendant entered a plea of guilty. Fined \$10.

Complaint was made June 11 in justice court of Hudson against William Sturewald charged with selling insanitary milk. June 18 defendant entered a plea of guilty. Fined \$3.95 costs.

Complaint was made June 11 in justice court of Hudson against Pearl Brownell charged with selling adulterated milk. June 16 defendant entered a plea of guilty and was fined \$5 and costs.

Complaint was made June 16 in police court city of Detroit, against the proprietor of the Excelsior Pharmacy, 358 St. Antoine St., Detroit, charged with selling tincture iodine not in conformity with U. S. P. requirements. Case pending.

Complaint was made June 16 in police court, city of Detroit, against the proprietor of the Robinson Pharmacy, 517 Hastings St., Detroit, charged with selling camphor liniment not in conformity with legal requirements. Case pending.

Complaint was made June 17 in justice court, city of St. Joseph, against Graham O. McOmber, manager Berrien Springs Dispensary Co., charged with the sale of a drug containing morphine and alcohol not legally labeled. June 17 defendant bound over to circuit court for trial. Case pending.

Complaint was made June 19 in justice court of Paw Paw, against Dwight C. Barker charged with selling sausage containing cereal without stamping. June 19 defendant bound over to circuit court for trial. Case pending.

Complaint was made June 19 in justice court of Paw Paw, against Wilbur J. Warner charged with selling Hamburg Steak which contained sulphites. June 19 defendant waived examination and was bound over to the circuit court for trial. Case pending.

Complaint was made June 30 in recorders court, city of Cadillac, against the proprietor of the Cooperative Hotel charged with serving oleomargarine without displaying sign. Defendant bound over to circuit court for trial. Case pending.

Complaint was made June 30 in recorders court, city of Cadillac,

against Frank Cornell charged with selling oleomargarine without displaying sign. Defendant bound over to circuit court for trial. Case pending.

July 31, 1914.

Hon. James W. Helme, Lansing, Mich.

Dear Sir:—I herewith submit for your approval the report of samples submitted to the laboratory of this Department for analysis during the months of May and June.

In all 349 samples were examined, 162 of which were found adulterated, misbranded or illegally sold within the meaning of the statute, while 187 were found to comply with all requirements of law.

Yours very truly,

F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Butter.....	19	16	3
Canned vegetables.....	4	3	1
Catsup.....	1	1	0
Cocoa.....	1	1	0
Condensed milk and cream.....	22	9	13
Coffee.....	1	1	0
Corn meal.....	1	0	1
Cream.....	22	21	1
Cream tartar.....	1	1	0
Currants.....	1	0	1
Flavoring preparations.....	6	4	2
Flour.....	2	0	2
Gelatine.....	2	2	0
Hamburg steak.....	9	5	4
Horse radish.....	1	1	0
Ice cream.....	3	2	1
Jelly.....	2	1	1
Lard.....	7	5	2
Linseed oil.....	6	6	0
Maple cakes.....	4	3	1
Meat.....	5	4	1
Milk.....	105	59	46
Nutmegs.....	1	1	0
Oleomargarine.....	4	0	4
Olive oil.....	1	1	0
Pie filling.....	2	2	0
Powdered sugar.....	2	2	0
Preservatives.....	1	1	0
Salad dressing.....	1	1	0
Sausage.....	77	12	65
Soft drinks.....	19	14	5
Syrups.....	12	5	7
Turpentine.....	1	0	1
Vinegar.....	3	3	0
Totals.....	349	187	162

ANALYSES OF SAMPLES.

BUTTER.

No. 30161, G-1095. Sample of butter procured from J. H. Roach, Central Hotel, Laurium. Sample is oleomargarine. No sign displayed.

No. 30508, B-106. Sample of butter procured from F. B. Campanoro, Sault Ste. Marie. Product is process butter. Package not stamped.

No. 30510, B-108. Sample of butter procured from Kosto & Pando, Sault Ste. Marie. Sample is process butter. Package not stamped.

CANNED VEGETABLES.

No. 30358, G-1102. Sample of canned peas procured from A. M. Merritt, Delta Hotel, Escanaba. Peas are colored with copper sulphate. Not salable.

CONDENSED MILK, ETC.

No. 30160, G-1094. Sample of evaporated milk manufactured by the Sheboygan Evaporated Milk Co., Sheboygan, Wis. Misbranded in that the directions for diluting are not worded according to the statute.

No. 30167, V-57. Sample of evaporated milk manufactured by the Ohio Dairy Co., Toledo, Ohio. Misbranded in that the directions for diluting are not worded according to the statute.

No. 30168, V-58. Sample of sterilized milk procured from J. L. Hudson Co., Detroit. Misbranded in that the directions for diluting are not worded according to the statute.

No. 30173, V-63. Sample of evaporated milk manufactured by the Borden Condensed Milk Co., New York. Misbranded in that the formula for extending milk is not worded according to the statute.

No. 30174, V-64. Sample of evaporated milk manufactured by the Helvetia Condensed Milk Co., Highland, Ill. Misbranded in that the directions for diluting are not worded according to the statute.

No. 30178, V-68. Sample of skimmed milk manufactured by the Hires Condensed Milk Co., Philadelphia, Pa. Misbranded in that the directions for dilution are not worded according to the statute.

No. 30180, V-70. Sample of condensed milk manufactured by the Hires Condensed Milk Co., Philadelphia, Pa. Misbranded in that directions for diluting are not worded according to the statute.

No. 30182, V-72. Sample of condensed milk manufactured by the Ohio Dairy Co., Toledo, Ohio. Misbranded in that the label states the net weight 14 ounces, whereas the net weight was found to be 13.1 ozs.

No. 30204, G-1096. Sample of evaporated milk distributed by Gowan, Lenning, Brown Co., Duluth, Minn. No directions for diluting. Misbranded.

No. 30206, G-1098. Sample of evaporated milk manufactured by the Borden Condensed Milk Co., St. Charles, Ill. Directions for diluting not worded according to statute. Misbranded.

No. 30448, G-1103. Sample of evaporated milk manufactured by the

Oatman Condensed Milk Co., Dundee, Ill. Misbranded for the reason that directions for diluting are not in conformity with the statute.

No. 30454, G-1109. Sample of evaporated milk manufactured by the Franklin MacVeigh Co., Chicago, Ill. No directions given for diluting. Misbranded.

No. 30455, G-1110. Sample of evaporated milk manufactured by the Footville Condensed Milk Co., Footville, Wis. Misbranded in that directions for diluting are not in conformity with the statute.

CORN MEAL.

No. 30198, P-1274. Sample of corn meal put up by the Colby Milling Co., Dowagiac. Misbranded for the reason that the weight of the contents of the sack does not weigh 6 lbs. as stated on the sack.

CREAM.

No. 30089. Unofficial sample of cream. Butter fat 11%. Below standard.

CURRENTS.

No. 30190, P-1266. Sample of package currants put up by W. M. Hoyt & Co., Chicago, Ill. Net weight stated 15 ozs. Net weight found 13¾ ozs. Misbranded.

FLAVORING PREPARATIONS.

No. 30126, V-52. Sample of Sweet Violet Brand Vanilla handled by the Dueweke Grocery Co., Detroit. Net contents not stated. Misbranded.

No. 30452, G-1107. Sample of Eddy Special Lemon Extract manufactured by the Eddy & Eddy Mfg. Co., St. Louis. Misbranded in that the bottle does not contain 7 drams as stated.

FLOUR.

No. 30197, P-1273. Sample of Hoyt's Best Flour manufactured by the W. M. Hoyt & Co., Chicago, Ill. Weight not stated on the package. Misbranded.

No. 30215, B-70. Sample of flour manufactured by the Gladwin Elevator Co., Gladwin. Paper sack contains an amount of refuse taken from the flour. Unfit for food.

HAMBURG STEAK.

No. 29984, D-205. Sample of Hamburg Steak manufactured and sold by the Grand Rapids Sanitary Meat Market, 436 Bridge St., Grand Rapids. Product contains added sulphurous acid or salts thereof.

No. 29986, D-206. Sample of Hamburg Steak manufactured and sold by the Grand Rapids Sanitary Meat Market, Grand Rapids. Product contains added sulphurous acid or salts thereof.

No. 30002, D-208. Sample of Hamburg Steak manufactured and sold by J. Sanford, 1154 Division, Grand Rapids. Product contains added sulphurous acid or salts thereof.

No. 30043, P-1223. Sample of Hamburg Steak manufactured and sold by Wilbur J. Warner, Paw Paw. Product contains added sulphurous acid or salts thereof.

ICE CREAM.

No. 30391, Y-200. Sample of ice cream manufactured by the Fountain City Ice Cream Co., Morenci. Butter fat 8.2%. Below the legal standard in butter fat.

JELLY.

No. 30003, D-209. Sample of Crown Jelly manufactured by Ad Seidel & Sons, Chicago, and procured from the Citizens Bakery, 922 Division Ave., Grand Rapids. Jelly is artificially colored. Not salable.

LARD.

No. 30018, I-260. Sample of lard manufactured and sold by F. Proulx & Son, 816 3rd Ave., Bay City. Not properly labeled as a lard Compound.

No. 30533, B-111. Sample of lard compound procured from Sandelman & Co., Pickford. Product is lard compound. Package not stamped.

MAPLE CAKES.

No. 29983, D-201. Sample of maple cakes sold by W. E. Mutton, Grand Rapids. Sample is a mixture of maple sugar and brown sugar.

MEAT.

No. 30532, F-178. Sample of Beef Ribs procured from J. W. Lockhart, Frankfort. Sample consisted wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal substance.

MILK.

No. 29980, B-53. Sample of milk procured from H. Lamb, Rogers. Below standard in specific gravity, butter fat and total solids. Contains about 14% added water.

No. 30036, I-307. Sample of milk procured from Laney & Paquett, Cadillac. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30079, P-1227. Sample of milk procured from Clark Salisbury, Coldwater. Below standard in specific gravity, total solids and butter fat. Contains about 20% added water.

No. 30080, P-1228. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity, total solids and butter fat. Contains about 13% added water.

No. 30083, P-1231. Sample of milk procured from F. E. Robinson, Coldwater. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30085, P-1233. Sample of milk procured from Gifford & Chap-

man, Coldwater. Below standard in specific gravity and total solids. Contains about 27% added water.

No. 30088, P-1236. Sample of milk procured from Clark Salisbury, Coldwater. Below standard in specific gravity, butter fat and total solids. Contains about 15% added water.

No. 30094, P-1240. Sample of milk procured from Gifford & Chapman, Colwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30095, P-1241. Sample of milk procured from Gifford & Chapman, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30096, P-1242. Sample of milk procured from Gifford & Chapman, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30097, P-1243. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity and total solids. Contains about 16% added water.

No. 30098, P-1244. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity, total solids and butter fat. Contains about 12% added water.

No. 30099, P-1245. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity, total solids and butter fat. Contains about 14% added water.

No. 30100, P-1246. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity and total solids. Contains about 10% added water.

No. 30101, P-1247. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30103, P-1249. Sample of milk procured from R. W. Grove, Coldwater. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30104, P-1250. Sample of milk procured from R. W. Grove, Coldwater. Below standard in specific gravity and total solids. Contains about 44% added water.

No. 30105, P-1251. Sample of milk procured from F. E. Robinson, Coldwater. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30107, P-1253. Sample of milk procured from C. H. Russell, Coldwater. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30108, P-1254. Sample of milk procured from Clark Salisbury, Coldwater. Below standard in specific gravity, butter fat and total solids. Contains 18% added water.

No. 30109, P-1255. Sample of milk procured from Clark Salisbury, Coldwater. Below standard in specific gravity, butter fat and total solids. Contains about 22% added water.

No. 30115, P-1261. Sample of milk procured from Chas. Murdock, Coldwater. Below standard in specific gravity and total solids. Sample contains about 15% added water.

No. 30116, P-1262. Sample of milk procured from W. Hollenbeck,

Coldwater. Below standard in specific gravity, butter fat and total solids. Contains about 10% added water.

No. 30117, P-1263. Sample of milk procured from A. C. Hadlock, Coldwater. Below standard in specific gravity and total solids. Contains about 15% added water.

No. 30118, P-1264. Sample of milk procured from Chas. Murdock, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30123, I-272. Sample of milk produced by Sherman Rickard, Waldron. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30124, I-273. Sample of milk procured from Sherman Rickard, Waldron. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30234, I-286. Sample of milk procured from A. Stauffer, Waldron. Below standard in butter fat and total solids. Part of the cream has been removed.

No. 30240, I-292. Sample of milk procured from Ed. Ackley, Waldron. Contains an excessive amount of dirt.

No. 30284, P-1292. Sample of milk procured from Pearl and J. G. Brownell, Hudson. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30332, I-303. Sample of milk procured from Chas. W. Ziegler, Cadillac. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30334, I-305. Sample of milk procured from Frank Gregg, Cadillac. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30467, I-324. Sample of milk procured from Warren Sternaman, Owosso. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30468, I-325. Sample of milk procured from Mrs. Nettie Johnson, Owosso. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30469, I-326. Sample of milk procured from Will May, Owosso. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30472, I-329. Sample of milk procured from G. and C. Capatan Bros., Owosso. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30524. Unofficial sample of milk. Butter fat 1.7%. Below standard.

No. 30569, N-56. Sample of Milk produced by Frank McDonald, Mt. Pleasant RFD. Below standard in butter fat and total solids.

No. 30571, N-58. Sample of milk produced by M. Murphy, Mt. Pleasant. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30572, N-59. Sample of milk produced by Frank Coughlin, Mt. Pleasant RFD. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30573, N-60. Sample of milk produced by James Daniels, Mt. Pleasant RFD. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30574, N-61. Sample of milk produced by Fred Farner, Mt. Pleasant RFD. Below standard in butter fat and total solids.

No. 30575, N-62. Sample of milk produced by J. Cooper, Rosebush RFD. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30576, N-63. Sample of milk produced by D. Torpey Mt. Pleasant RFD. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30577, N-64. Sample of milk produced by G. McLachlin, Mt. Pleasant RFD. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30579, N-66. Sample of milk produced by C. E. Emery, Mt. Pleasant. Below standard in butter fat and total solids.

OLEOMARGARINE.

No. 30012, I-254. Sample of oleomargarine procured from Joseph Denny, Bay City. No sign displayed.

No. 30367, B-83. Sample of oleomargarine procured from the Co-operative Hotel, Cadillac. No sign displayed.

No. 30368, B-84. Sample of oleomargarine procured from J. Cornwell & Son, Cadillac. No sign displayed.

No. 30536, F-179. Sample of oleomargarine procured from Geo. W. Rupright, Elberta. No sign displayed.

SAUSAGE.

No. 29987, D-207. Sample of bologna sausage manufactured and sold by the Grand Rapids Sanitary Market, 436 Bridge St. Grand Rapids. Cereal 5.12%. Contains an excessive amount of cereal. Package or product not stamped to indicate the presence of cereal.

No. 29989, I-242. Sample of pork sausage manufactured and sold by Frank Waltman, 1110 Columbus St., Bay City. Cereal 5.18%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29990, I-243. Sample of bologna sausage manufactured and sold by Paul Walter, 110 N. Washington St., Bay City. Cereal 4.07%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 29991, I-244. Sample of frankfort sausage procured from Ernest Giertz & Son, 1608 Columbus St., Bay City. Cereal 2.44%. Package or product not stamped.

No. 29992, I-245. Sample of bologna sausage procured from Geo. DuFresne, Bay City. Cereal 2.14%. Package or product not stamped.

No. 29993, I-246. Sample of bologna sausage manufactured by Geo. Zimmer and procured from Ed. L. Baumgartner, Bay City. Cereal 3.82%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29994, I-248. Sample of bologna sausage manufactured and sold

by Conrad A. Guntermann, Bay City. Cereal 3.03%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29995, I-249. Sample of bologna sausage manufactured and sold by Dehn Bros., Bay City. Cereal 6.22%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29996, I-250. Sample of bologna sausage manufactured by Geo. Zimmer, Bay City, and procured from Geo. Guntermann, Bay City. Cereal 2.94%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29998, I-252. Sample of bologna sausage manufactured and sold by Geo. Zimmer, Bay City. Cereal 2.73%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29999, I-253. Sample of frankfurt sausage procured from Fred Salathe, Bay City. Cereal 2.25%. Package or product not marked or stamped.

No. 30013, I-255. Sample of frankfurt sausage procured from Wm. McMorris, Bay City. Cereal 1.85%. Package or product not marked or stamped.

No. 30014, I-256. Sample of bologna sausage manufactured by Geo. Zimmer, Bay City, and procured from Ed. W. Funnell, Bay City. Cereal 2.73%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30015, I-257. Sample of bologna sausage manufactured and sold by Chas. C. Schultz, Bay City. Cereal 4.98%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30019, I-261. Sample of bologna sausage manufactured by Geo. Zimmer, Bay City, and procured from Theo. Dichtelmiller, Bay City. Cereal 2.79%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30020, I-263. Sample of frankfurt sausage procured from Stanley Swantek, Bay City. Cereal 2.49%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30021, I-264. Sample of bologna sausage manufactured and sold by Ignatz Janowicz, Bay City. Cereal 2.50%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30022, I-265. Sample of bologna sausage manufactured and sold by Frank Zielinski, Bay City. Cereal 1.97%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30023, I-266. Sample of bologna sausage manufactured and sold by Wojciechowski Bros., Bay City. Cereal 5.18%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30024, I-267. Sample of bologna sausage manufactured and sold by Valentine Hadynski, Bay City. Cereal 3.58%. Contains an excessive amount of cereal.

No. 30025, I-268. Sample of bologna sausage manufactured and sold by Joseph Budjinski, Bay City. Cereal 4.59%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30026, I-269. Sample of frankfurt sausage procured from Antoni Grawski, Bay City. Cereal 1.50%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30027, I-270. Sample of Bologna sausage manufactured and sold

by Max Malleck, Bay City. Cereal 2.10%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30042, P-1222. Sample of frankfurt sausage procured from Wilbur P. Warner, Paw Paw, Cereal 1.44%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30044, P-1224. Sample of frankfurt sausage procured from Dwight C. Barker, Paw Paw. Cereal 1.49%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30057, B-58. Sample of sausage manufactured and sold by Emil Plath, Rogers. Cereal 1.31%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30059, B-60. Sample of sausage manufactured and sold by Emil Plath, Rogers. Cereal 1.35%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30163, B-63. Sample of sausage procured from the Mancelona Grocery Co., Mancelona. Cereal 2.48%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30212, B-67. Sample of sausage procured from Heth & Stickel, Gladwin. Cereal .65%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30270, U-84. Sample of sausage manufactured by J. Peters, 620 Dix Ave., Detroit, and procured from D. S. Christy, Highland Park. Cereal 11.47%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30271, U-85. Sample of sausage procured from D. S. Christy, Highland Park. Cereal 1.70%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30272, U-86. Sample of sausage manufactured and sold by M. Kohn & Son, Highland Park. Cereal 1.63%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30274, U-88. Sample of sausage manufactured and sold by M. Kohn & Son, Highland Park. Cereal 1.18%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30310, B-78. Sample of sausage manufactured and sold by Peter Larson, Cadillac. Casings artificially colored with coal tar dye.

No. 30311, B-79. Sample of sausage manufactured and sold by Curtis & Grant, Cadillac. Cereal 3.27%. Contains an excessive amount of cereal. Package or product not marked or stamped to indicate presence of cereal.

No. 30325, I-296. Sample of pork sausage manufactured and sold by Curtis & Grant, Cadillac. Cereal 3.27%. Contains an excessive amount of cereal.

No. 30326, I-297. Sample of pork sausage manufactured and sold by M. Boersina & Sons, Cadillac. Cereal 4.71%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30327, I-298. Sample of frankfurt sausage procured from M. Boersina & Sons, Cadillac. Cereal 2.17%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30328, I-299. Sample of bologna and frankfurt sausage manufactured and sold by Harry H. Kingsly, Cadillac. Cereal 6.70%. Contains an excessive amount of cereal.

No. 30329, I-300. Sample of bologna sausage procured from McCoy & Marcus, Cadillac. Cereal 2.02%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30338, I-309. Sample of pork sausage manufactured and sold by Burton & Rupers, Cadillac. Cereal 1.90%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30359, U-89. Sample of pork sausage manufactured and sold by J. A. Peters, 620 Dix Ave., Detroit. Cereal 5.47%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30360, U-90. Sample of sausage manufactured and sold by J. A. Peters, 620 Dix Ave., Detroit. Cereal 11.28%. Contains an excessive amount of cereal. Package or product not marked or stamped to indicate the presence of cereal.

No. 30363, F-173. Sample of sausage procured from H. R. Fowler, Charlevoix. Cereal 4.66%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30364, F-174. Sample of sausage procured from Martin Block, Charlevoix. Cereal 1.44%. Package or product not marked or stamped to indicate presence of cereal.

No. 30394, B-86. Sample of sausage manufactured by Smith & Lake, Petoskey, and procured from Mancelona Grocery Co., Mancelona. Cereal 3.14%. Contains an excessive amount of cereal.

No. 30397, B-89. Sample of sausage manufactured and sold by C. A. Travis, Frederic. Cereal 4.95%. Contains an excessive amount of cereal. Package not marked or stamped.

No. 30401, B-93. Sample of sausage manufactured and sold by F. H. Milks, Grayling. Cereal 5.25%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30402, B-94. Sample of sausage manufactured and sold by F. H. Milks, Grayling. Cereal 4.95%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30461, B-89. Sample of sausage manufactured and sold by C. A. Travis, Frederic. Cereal 7.42%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30462, B-96. Sample of sausage manufactured and sold by Frank Noa, Gaylord. Cereal 2.03%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30463, B-97. Sample of sausage manufactured and sold by Frank Noa, Gaylord. Cereal 2.86%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30471, I-328. Sample of bologna sausage A. Greilich, Owosso, Manufacturer. Cereal 4.07%. Contains an excessive amount of cereal.

No. 30475, I-317. Sample of bologna sausage manufactured and sold by Jacob A. Barie, Owosso. Cereal 2.41%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30478, I-320. Sample of bologna sausage manufactured and sold by Robert Raatz, Owosso. Cereal 3.51%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30479, I-321. Sample of bologna sausage manufactured and sold by Anton Greilich, Owosso. Cereal 4.52%. Contains an excessive amount of cereal. Casings colored with coal tar dye. Package or product not stamped.

No. 30480, I-322. Sample of bologna sausage manufactured and sold by Fred T. Axford, Owosso. Cereal 3.21%. Contains an excessive amount of cereal. Package or product not marked or stamped. Casings colored with coal tar dye.

No. 30502, B-100. Sample of sausage procured from John W. Agnew, Sault Ste. Marie. Cereal 1.23%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30505, B-103. Sample of sausage manufactured and sold by H. A. Williams, Sault Ste. Marie. Cereal 6.16%. Contains an excessive amount of cereal. Package or product not marked.

No. 30506, B-104. Sample of sausage manufactured and sold by J. H. Moher, Sault Ste. Marie. Cereal 2.50%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30511, B-109. Sample of sausage manufactured and sold by Fred Bye, Sault Ste. Marie. Cereal 4.19%. Contains an excessive amount of cereal. Package or product not marked.

No. 30512, B-110. Sample of sausage manufactured and sold by Fred Bye, Sault Ste. Marie. Cereal 5.60%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30517, F-177. Sample of bologna sausage procured from D. N. Cornell, Thompsonville. Cereal 6.29%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30561, I-331. Sample of bologna sausage manufactured and sold by Frank Noa, Gaylord. Cereal 2.93%. Contains an excessive amount of cereal.

No. 30565, I-335. Sample of bologna sausage manufactured and sold by Allen Schreur, Gaylord. Cereal 3.75%. Contains an excessive amount of cereal.

SOFT DRINKS.

No. 30245, U-72. Sample of pop manufactured by McBride, Earl, Pollard Co., Detroit. Saccharin present.

No. 30246, U-73. Sample of pop manufactured by McBride, Earl, Pollard Co., Detroit. Saccharin present.

No. 30262, U-75. Sample of pop manufactured by McBride, Earl Pollard Co., Detroit. Saccharin present.

No. 30263, U-76. Sample of pop manufactured by McBride, Earl, Pollard Co., Detroit. Saccharin present.

No. 30264, U-77. Sample of pop manufactured by McBride, Earl, Pollard Co., Detroit. Saccharin present.

SYRUPS.

No. 29919, B-50. Sample of maple syrup procured from Klooster & Son, Ellsworth. Sample fermented otherwise pure syrup. Contains an excessive amount of moisture. Misbranded.

No. 30058, B-59. Sample of maple sap syrup manufactured by the Bay State Maple Syrup Co., Boston, Mass. Net weight not stated on the label.

No. 30071, U-67. Sample of Nabob Syrup manufactured by Francis H. Leggett, New York. Misbranded.

No. 30395, B-87. Sample of White Syrup, Manufactured by J. C. Hubinger, Keokuk, Ia. Misbranded.

No. 30464, B-98. Sample of White Goose Syrup manufactured by the Kellogg Mfg. Co., Keokuk, Ia. Not properly labeled.

No. 30503, B-101. Sample of maple syrup procured from Paulantos Bros., Sault Ste. Marie. Not pure maple syrup.

No. 30546, E-100. Sample of Great Mountain Syrup manufactured by the Towle Maple Products Co., St. Johnsbury, Vt. Misbranded.

TURPENTINE.

No. 30549. Unofficial sample of turpentine. Contains about 10% mineral oil.

DRUG INSPECTIONS.

The following places were visited by the Department's drug inspection force during the months of May and June, 1914:

Adrian, Alma, Ann Arbor, Bellaire, Boyne City, Boyne Falls, Brooklyn, Cadillac, Casnovia, Cheboygan, Chelsea, Clare, Coleman, Comstock, Constantine, Delray, Delton, Detroit, DeWitt, East Jordan, Elk Rapids, Evart, Ford City, Gaylord, Grand Rapids, Grass Lake, Grayling, Hanover, Hersey, Highland Park, Hillsdale, Holland, Hudson, Indian River, Ithaca, Jerome, Jonesville, Kalamazoo, Kalkaska, Kent City, Kingsley, Lake City, Lansing, Levering, Ludington, McBain, Mackinaw, Mancelona, Manchester, Manistee, Maple City, Marion, Mason, Mt. Pleasant, North Adams, Northstar, Onaway, Plainwell, Plymouth, Provemont, Quincy, Reading, Reed City, Roscommon, St. Johns, St. Louis, Saline, Scottville, Shepherd, Suttons Bay, Tower, Traverse City, Vanderbilt, Wolverine, Wyandotte.

July 1, 1914.

Hon. James W. Helme,
Dairy & Food Commissioner,
Lansing, Michigan.

Dear Sir—The following is the report of the Drug Department for May and June, 1914:

A total of 84 samples were analyzed, 38 or 45% of which failed to meet the requirements of the Drug law.

Yours truly,
A. R. TODD,
Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Bismuth subnitrate	1	1	0
Camphor liniment	6	3	3
Cream tartar	2	2	0
Elixir iron, quinine and strychnine	1	0	1
Elixir iron, quinine and strychnine phos	3	2	1
Fowler's solution	4	3	1
Headache powders	2	2	0
Lead subacetate solution	1	1	0
Paregoric	2	2	0
Proprietary preparations	1	0	1
Seldlitz powders	1	1	0
Spirits camphor	8	6	2
Spirits nitre	3	3	0
Spirits peppermint	15	6	9
Syrup iron iodide	1	1	0
T. T. Codeine sulphate	1	0	1
T. T. Morphine sulphate	2	2	0
Tr. Iodine	28	9	19
Tr. Opium	2	2	0
Totals	84	46	38

CAMPBOR LINIMENT.

No. 30494, Q-416. Sample of camphor liniment manufactured and sold by the Robinson Pharmacy, 517 Hastings St., Detroit. Camphor 13.28%. Low in camphor.

No. 30586, Q-422. Sample of camphor liniment manufactured and sold by J. W. Gardula, 2463 Jefferson Ave., West, Delray. Camphor 14.27%. Low in camphor.

No. 30588, Q-424. Sample of camphor liniment manufactured and sold by Glenn E. Bowles, 2318 Jefferson Ave. West, Delray. Camphor 18.26%. Low in camphor.

ELIXIR IRON, QUININE & STRYCHNINE.

No. 30346, Z-366. Sample of elixir iron, quinine and strychnine manufactured by the American Druggists Syndicate, New York, and procured from G. D. Platts, McBain. Total alkaloids .4184 gms. per 100 cc. Low in total alkaloids.

ELIXIR IRON, QUININE & STRYCHNINE PHOSPHATE.

No. 30340, Z-360. Sample of elixir iron, quinine and strychnine phosphate manufactured and sold by S. M. Snow, Ludington. Total alkaloids .3312 gms. per 100 cc. Low in total alkaloids.

FOWLERS SOLUTION.

No. 30296, Z-350. Sample of Fowlers Solution manufactured and sold by the Stewart Avenue Pharmacy, W. H. Quigley, Proprietor, Grand Rapids. Arsenic trioxide 0.69%. Low in arsenic trioxide.

PREPARATORY PREPARATIONS.

No. 30307, Q-406. Sample of Blood Poison Antiseptic manufactured and sold by F. S. Banks, Mason. A hydro-alcoholic solution of the constituents of some plant. Statements concerning its curative power which appear on label are deceptive and misleading.

SPIRITS CAMPHOR.

No. 30139, Q-392. Sample of spirits camphor manufactured and sold by J. M. Hackett, 577 St. Antoine St., Detroit. Camphor 8.76%. Low in camphor.

No. 30289, Q-400. Sample of spirits camphor manufactured and sold by J. L. Pamerleau, 193 Myrtle St., Detroit. Camphor 9.13%. Low in camphor.

SPIRITS PEPPERMINT.

No. 30040, Q-389. Sample of Spirits peppermint manufactured and sold by Ray M. Ries & Co., Goodrich. Oil of peppermint 9.2%. Low in oil of peppermint.

No. 30137, Z-342. Sample of Spirits peppermint manufactured and sold by Henry Reichel Drug Co., Ideal Pharmacy, Grand Rapids. Oil of peppermint 9.2%. Low in oil of peppermint.

No. 30140, Q-393. Sample of spirits peppermint manufactured and sold by J. M. Hackett, 577 St. Antoine St., Detroit. Oil of peppermint 4.4%. Low in oil of peppermint.

No. 30290, Q-401. Sample of spirits peppermint manufactured and sold by J. L. Pamerleau, 193 Myrtle St., Detroit. Oil of peppermint 7.0%. Low in oil of peppermint.

No. 30300, Z-354. Sample of spirits peppermint manufactured and sold by Charles Rhodes, Alma. Oil of peppermint 6.4%. Low in oil of peppermint.

No. 30305, Z-359. Sample of spirits peppermint manufactured and sold by Henry Randolph, St. Louis. Oil of peppermint 3.6%. Low in oil of peppermint.

No. 30353, Q-409. Sample of Spirits peppermint manufactured and sold by Goldberg's Home Pharmacy, 405 Gratiot Ave., Detroit. Oil of peppermint 1.8%. Low in oil of peppermint.

No. 30491, Q-413. Sample of spirits peppermint manufactured and sold by Otto R. K. Kurz, 752 Michigan Ave., Detroit. Oil of peppermint 2.0%. Low in oil of peppermint.

No. 30493, Q-415. Sample of spirits peppermint manufactured and sold by the Robinson Pharmacy, 517 Hastings St., Detroit. Oil of peppermint 6.0%. Low in oil of peppermint.

T. T. CODIENE SULPHATE.

No. 30133, Z-338. Sample of $\frac{1}{2}$ gr. Compressed Tablets Codiene Sulphate manufactured by Nelson, Baker & Co., Detroit, and sold by F. J. Chamberlain, Carson City. Codeine sulphate per tablet .96 grain. Sample contains an excessive amount of codeine sulphate.

TR. IODINE.

No. 30138, Z-341. Sample of Tr. Iodine manufactured and sold by N. T. Eckberg, Grand Rapids. Iodine 3.376 gms., potassium iodide 1.333 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30141, Q-394. Sample of Tr. Iodine manufactured and sold by the Excelsior Pharmacy, 358 St. Antoine St., Detroit. Iodine 5.356 gms., potassium iodide 3.062 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30146, Q-399. Sample of Tr. Iodine manufactured and sold by A. P. Young, 153 Grand River Ave., Detroit. Iodine 5.889 gms., potassium iodide 5.0 gms. per 100 cc. Low in iodine.

No. 30185, Z-345. Sample of Tr. Iodine manufactured and sold by S. J. Heimbach, Constantine. Iodine 5.965 gms., potassium iodide 1.513 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30186, Z-346. Sample of Tr. Iodine manufactured and sold by the Robinson Drug Co., Lansing. Iodine 5.965 gms., potassium iodide 4.062 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30187, Z-347. Sample of Tr. Iodine manufactured and sold by E. L. Robertson & Son, Lansing. Iodine 6.1229 gms., potassium iodide 4.354 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30294, Q-405. Sample of Tr. Iodine manufactured and sold by A. D. Burnham, 807 McGraw, Detroit. Iodine 2.71 gms., potassium iodide 5.831 gms. per 100 cc. Low in iodine.

No. 30295, Z-349. Sample of Tr. Iodine manufactured and sold at Wests Drug Store, 93 Monroe Ave., Grand Rapids. Iodine 5.281 gms., potassium iodide 5.713 gms. per 100 cc. Low in iodine.

No. 30299, Z-353. Sample of Tr. Iodine manufactured and sold by E. J. Fletcher, 758 S. Division Ave., Grand Rapids. Iodine 5.3306 gms., potassium iodide 3.133 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30303, Z-357. Sample of Tr. Iodine manufactured and sold by P. Corey Taylor, Mt. Pleasant. Iodine 5.914 gms., potassium iodide 1.663 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30351, Q-407. Sample of Tr. Iodine manufactured and sold by R. G. Mitter, 1167 Warren West, Detroit. Iodine 4.4 gms., potassium iodide 2.961 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30352, Q-408. Sample of Tr. Iodine manufactured and sold at Belvedere Pharmacy, 2210 Gratiot Ave., Detroit. Iodine 7.0 gms, potassium iodide 3.404 gms. per 100 cc. Low in potassium iodide.

No. 30418, Z-371. Sample of Tr. Iodine manufactured and sold by B. A. Hoxie & Son (Central Drug Store) Grand Rapids. Iodine 1.9 gms., potassium iodide 6.412 gms. per 100 cc. Low in iodine.

No. 30489, Q-411. Sample of Tr. Iodine manufactured and sold by A. W. Branch & Co., Reading. Iodine 5.9144 gms., potassium iodide 3.6 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30495, Q-417. Sample of Tr. Iodine manufactured and sold by the Robinson Pharmacy, 517 Hastings St., Detroit. Iodine 5.6332 gms., potassium iodide 7.327 gms. per 100 cc. Low in iodine and contains an excessive amount of potassium iodide.

No. 30497, Q-419. Sample of Tr. Iodine manufactured and sold by the Excelsior Pharmacy, 358 St. Antoine St., Detroit. Iodine 5.217 gms.,

potassium iodide 3.019 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30539, Z-380. Sample of Tr. Iodine manufactured and sold by Louis F. Storz, 1233 Plainfield Ave., Grand Rapids. Iodine 4.45 gms., potassium iodide 6.871 gms. per 100 cc. Low in iodine and contains an excessive amount of potassium iodide.

No. 30542, Z-383. Sample of Tr. Iodine manufactured and sold by J. W. Kramer, Holland. Iodine 6.371 gms., potassium iodide 3.233 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30585, Q-421. Samples of Tr. Iodine manufactured and sold by J. M. Godfrey, 81-18th St., Detroit. Iodine 6.4729 gms., potassium iodide 3.812 gms. per 100 cc. Low in iodine and potassium iodide.

WEIGHTS AND MEASURES.

There has been some controversy of late relative to the law governing the use of measures in this state. The state law provides that all articles of food shall be sold by weight, measure or numerical count, and that only those products shall be sold by numerical count which cannot well be sold by weight or measure. All food, not liquid, if sold by measure, shall be sold by standard dry measure, the quart of which contains 67.20 cubic inches.

We have endeavored to regulate the method of sale of many commodities and also correct certain abuses that were tolerated and sanctioned by custom previous to the passage of the Weights and Measures Law. It has been customary for merchants to buy beans and other commodities by weight and sell them by the liquid quart measures thus either intentionally or unintentionally taking from their customers 10 to 15% of what was their due, which is in direct violation of the law. In a liquid quart there are 57.75 cubic inches or 9.45 cubic inches less than a dry quart.

Referring to an experiment made at the office of the Dairy and Food Department on Jan. 21st, we find that a liquid quart of beans was $2\frac{3}{8}$ ounces short of the legal requirement for a quart of beans, which is one pound fourteen ounces, and that a stricken dry quart of beans was about $1\frac{3}{4}$ ounces over the legal requirements. At this rate the liquid quart would beat the consumer about $4\frac{3}{4}$ pounds on a bushel, while the dry measure would beat the grocer about $3\frac{1}{2}$ pounds per bushel.

So much misunderstanding has arisen as the result of using measures in selling nuts, seeds and vegetables, that the only safe way for the merchant to be within the law, give the buyer his just dues and protect his own interests is to weigh these commodities instead of measuring them.

The following are the weights of certain commodities as fixed by Michigan statutes:

- Forty-eight pounds for a bushel of apples;
- Sixty pounds for a bushel of wheat;
- Fifty-six pounds for a bushel of rye;
- Fifty-six pounds for a bushel of shelled corn;
- Seventy pounds for a bushel of corn on the cob;
- Fifty pounds for a bushel of corn meal;
- Thirty-two pounds for a bushel of oats;
- Forty-eight pounds for a bushel of buckwheat;
- Sixty pounds for a bushel of beans;
- Sixty pounds for a bushel of clover seed;
- Forty-five pounds for a bushel of timothy seed;
- Fifty-six pounds for a bushel of flax seed;
- Forty-four pounds for a bushel of hemp seed;
- Fifty pounds for a bushel of millet or Hungarian grass seed;
- Fourteen pounds for a bushel of blue grass seed;

Fourteen pounds for a bushel of red top seed;
Forty-eight pounds for a bushel of barley;
Twenty-two pounds for a bushel of dried apples;
Twenty-eight pounds for a bushel of dried peaches;
Sixty pounds for a bushel of potatoes;
Fifty-six pounds for a bushel of sweet potatoes;
Fifty-four pounds for a bushel of onions;
Fifty-eight pounds for a bushel of turnips;
Sixty pounds for a bushel of peas;
Forty pounds for a bushel of cranberries;
Twenty-eight pounds for a bushel of dried plums;
Forty-six pounds for a bushel of castor beans;
Fifty-six pounds for a bushel of Michigan salt;
Eighty pounds for a bushel of mineral coal;
Fourteen pounds for a bushel of orchard grass seed;
Thirty-three pounds for a bushel of osage orange seed.

BURR B. LINCOLN,
Deputy Dairy and Food Commissioner.
In charge of Weights & Measures.

WHERE ARE THE HALF-PINTS?

The half gallon, measure most commonly used by housewives when sending for syrup, molasses, vinegar, etc., is probably the two-quart, so-called, fruit can put out by Ball Bros. Mfg. Co. These for years have been considered a standard half-gallon measure, and always the careful housewife has felt that when she used one she had her money's worth. In Northern Michigan they are used in large numbers for putting up maple syrup and sell for a full half gallon.

Recently this department had occasion to suspect that these, like some other things on the market, were a little shy and several tests were made resulting in the discovery that these cans are just one-half pint short or one pint to the gallon. Look back through all the long years and make a rough estimate of the half-pints of vinegar, molasses, syrup, etc., for which you have paid, but which, alas, were never yours.

A letter from Ball Bros. states that they are making these cans the same as for the past thirty years and that they have always been called "One-half gallon!" Shakespeare would have found that in this day and age there is something "in a name" in this case dollars and cents for the dealer and an equal loss to the buyer.

Can that can!

Here is something else to think about.

The big packing houses are wrapping their hams and bacon in heavy paper and selling them to local dealers with the paper weighed in. This runs from two to eight ounces to the piece or as the Department was informed by one butcher, about four pounds of paper to the hundred pounds of meat. In the past, many charges have been made against the large packers for illegal practices, but this is one of the smoothest skin-games (literally and figuratively) yet worked. The local dealer should weigh the paper and deduct the amount from his bill. Then the packers would soon save him that trouble.

BURR B. LINCOLN,
Deputy Dairy and Food Commissioner.

P. S. Since writing the above we have received a letter from Ball Bros. Glass Mfg. Co. in which they state that they have decided to change the molds of their one-half gallon fruit jars to full size. We are very glad they decided to do this without further trouble but if you send a fruit jar to the store to be filled, be very sure it holds the required amount.

BURR B. LINCOLN.

SCALES EXAMINED DURING THE MONTHS OF MAY AND JUNE, 1914.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
Bertrau, Almroth & Co.	Big Rapids.		1	
Benny & Jennings.	Big Rapids.	3	1	
Big Rapids Gas Co.	Big Rapids.		1	
City scales.	Big Rapids.		1	
F. W. Cole.	Big Rapids.	*2		
Darrah Milling Co.	Big Rapids.	7	1	2
G. A. Fitch.	Big Rapids.	*1	1	
G. R. & I. Ry.	Big Rapids.			
Hall & Bregenzel.	Big Rapids.	1	1	
Hanchett Swage Works.	Big Rapids.	2	2	
Chas. Hangstafer.	Big Rapids.		1	
C. F. Haywood.	Big Rapids.		1	
McDuffie Grocery Co.	Big Rapids.	2		
Mercy Hospital.	Big Rapids.	1		
Ira P. Mitchell Co.	Big Rapids.	3		
Model Cooperative Creamery.	Big Rapids.	1		
C. Murphy.	Big Rapids.	4	1	
W. F. Nehmer.	Big Rapids.		1	
P. M. Ry.	Big Rapids.	1		
Rau Bros.	Big Rapids.		2	
W. Sloss (Coal).	Big Rapids.		1	
W. J. Sloss (Feed, etc.).	Big Rapids.	1		1
Lester J. Stimson.	Big Rapids.	5		
Dell Tiffany.	Big Rapids.	1		
Ward Lumber & Coal Co.	Big Rapids.	*1		
Harry D. Lewis.	Bridgeville, R. F. D.	1		
Medina Cooperative Creamery (Minden City).	Detroit.	1		
F. A. Balderson & Co.	Eagle.	2		
H. O. Brokaw.	Eagle.	1		
Eddy & Peake.	Eagle.	1	1	
J. S. Green.	Eagle.	2		
E. C. McCrumb.	Eagle.	1		
Arthur L. Moore.	Eagle.		1	
Frank Murphy.	Eagle.	1		
East Saugatuck Creamery Co.	East Sauga- tuck.		1	
Towards Wayne Co. Creamery (Cass City).	Detroit.		1	
Bothyl Grocery Co.	Grand Haven.		1	
R. A. Smith.	Grand Haven.		1	
Gaylord Creamery.	Gaylord.	1		
Holland Crystal Creamery Co.	Holland.		1	
John Fawcett.	Howell.		1	
G. E. Curtis & Co.	Ionia.		2	
Arnold Bros.	Iron Mountain.		1	
Feira & Tondini.	Iron Mountain.		1	
Johnson Bros.	Iron Mountain.		1	
L. J. Larson.	Iron Mountain.		1	
L. H. Reidel Creamery.	Minden City.	1		
Fred R. Siebka.	Pompeii, R. D.	1		
Port Huron Creamery Co.	Port Huron.		2	
Robert Hunziker.	Pullman.		1	
Nelson & Wright.	Owosso.	3		
Ira G. Curry.	Owosso.	1		
Wolverine Creamery Co.	Wolverine.	1		

MEASURES EXAMINED DURING THE MONTHS OF MAY AND JUNE, 1914.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
Harry D. Lewis.....	Bridgeville, R. F. D.....	1		
Bothyl Grocery Co.....	Grand Haven.....		1	
Cook Mercantile Co.....	Grand Haven.....		3	
E. H. Hollstelle.....	Grand Haven.....		3	
J. J. Klaussen & Co.....	Grand Haven.....		2	
A. J. Nyland.....	Grand Haven.....		1	
K. Ratze.....	Grand Haven.....		2	
R. A. Smith.....	Grand Haven.....		2	
C. Vette.....	Grand Haven.....		1	
G. E. Curtis & Co.....	Ionla.....		1	
Dean & Eyster.....	Ionla.....		3	
Hutchins Bros.....	Ionla.....		2	
G. F. Phelps & Son.....	Ionla.....		2	
Pierce Coffee Co.....	Ionla.....		2	
H. A. Rich.....	Ionla.....		1	

WEIGHTS EXAMINED DURING THE MONTHS OF MAY AND JUNE, 1914.

Name of firm.	Location.	Correct and sealed.	Incorrect and condemned.	Adjusted.
Darrah Milling Co.....	Big Rapids.....			12
Ira P. Mitchell Co.....	Big Rapids.....	5	1	1
W. F. Nehmer.....	Big Rapids.....	1		2
Eddy & Peake.....	Eagle.....		5	

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Allegan County, May:					
Boylard Cream Station.....	Pullman.....	Boylard Creamery Co.....			Fair..
East Saugatuck Creamery.....	East Saugatuck.....	J. Seibelink.....	1,490,000	66,944	Fair..
Holland Crystal Cream Station.....	Pullman.....	Holland Crystal Creamery Co.....			Fair..
Holland Crystal Cream Station.....	Bravo.....	Holland Crystal Creamery Co.....			Good..
R. Hunsiker Cream Station.....	Pullman.....	Robt. Hunsiker.....			Fair..
Pearle Cooperative Creamery.....	Pearle.....	A. L. Brown.....		83,316	Fine..
Cheboygan County, May:					
Wolverine Creamery.....	Wolverine.....	H. Kanable.....		20,000	Good..
Huron County, May:					
Freeman Dairy Co.....	Bad Axe.....	D. B. Kelley.....			Good..
Michigan Creamery Co.....	Bad Axe.....	M. H. Smith.....			Good..
Parisville Cream Station.....	Parisville.....	Ruth Creamery Co.....			Good..
Port Huron Creamery Co.....	Ruth.....	C. Cook.....			Good..
Port Huron Cream Station.....	Bad Axe.....	James Haley & Co.....			Good..
Ruth Creamery Co.....	Ruth.....	J. Wahle.....	189,107		Good..
Ionia County, May:					
Boylard Cream Station.....	Muir.....	J. D. Strachan.....			Good..
Durand Cream Station.....	Muir.....	Palmer & West.....			Good..
Swift & Co. Cream Station.....	Muir.....	H. S. Campbell.....			Good..
Iosco County, May:					
Iosco Creamery Co.....	Whittemore.....	M. Jensen.....		100,000	Good..
Lenawee County, May:					
Jasper Creamery.....	Jasper.....	W. A. Barnaby.....	3,600,000		Fair..
Maple City Creamery.....	Adrian.....	W. A. Barnaby.....	1,690,000	347,370	Fair..
Towars Skimming Station.....	Ennis.....	Towars Wayne Co. Cry.....			Good..
Towars Milk Depot.....	Munson.....	Towars Wayne Co. Cry.....			Good..
Towars Milk Depot.....	Sand Creek.....	Towars Wayne Co. Cry.....			Good..
Macomb County, May:					
Meyers Skimming Station.....	Meyers.....	Chesterfield Cry. Co.....	1,304,000		Good..
New Baltimore Creamery.....	New Baltimore.....	New Baltimore Cry. Co.....	864,519	88,604	Good..
Port Huron Cream Station.....	Richmond.....	Port Huron Cry. Co.....			Fair..
Richmond Creamery.....	Richmond.....	Wm. Zentgraf.....		98,554	Good..
Spencer & Howes Cream Station.....	Richmond.....	Spencer & Howe.....			Fair..
Osego County, May:					
Gaylord Creamery Co.....	Gaylord.....	Sam Sellers.....			Good..
Ottawa County, May:					
Crisp Creamery Co.....	Crisp.....			98,000	Good..
Hudsonville Cooperative Creamery.....	Hudsonville.....	J. VanDerheide.....		187,000	Fair..
Vriesland Creamery Co.....	Vriesland.....	H. Root.....			Good..
Sanilac County, May:					
Applegate Creamery.....	Applegate.....	W. T. Leonard.....		150,000	Good..
Crowwell Creamery Co.....	Crowwell.....	Wm. Smith.....		76,180	Good..
Forestville Cream Station.....	Forestville.....	W. J. Moore.....			Good..
Medina Creamery Co.....	Minden City.....	W. J. Moore.....			Good..
James Miller Cream Station.....	Crowwell.....	James Miller.....			Good..
Port Huron Cream Station.....	Deckerville.....	Wm. Pomeroy.....			Good..
Port Huron Cream Station.....	Carsonville.....	L. A. Graham.....			Good..
Port Huron Cream Station.....	Applegate.....	Port Huron Cry. Co.....			Fair..

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engines.	Boiler.		
Clean.												
Dirty.	Clean.	Clean.	Clean.		Fair.	Clean.	Fair.	Clean.	Good.	Good.	Fair.	90
Clean.												
Clean.												
Clean.												
Clean.	Good.			Clean.	Clean.		Good.	Clean.	Good.	Good.		90
Good.	Good.			Good.	Good.		Good.	Good.	Good.	Good.		91
Good.					Good.		Good.	Good.	Good.	Good.		92
	Good.			Good.	Good.		Good.	Good.	Good.	Good.		90
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Good.		Good.	Good.	Fair.	
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Fair.	Clean.	Good.	Good.	Fine.	93
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Good.		Good.	Good.	Good.	
Clean.	Clean.			Clean.	Clean.		Good.			Good.	Good.	
Clean.				Clean.	Clean.						Fine.	
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Clean.	Good.		Good.	Good.	Fair.	
Clean.	Good.				Clean.	Clean.	Fair.	Clean.	Good.	Good.	Fair.	90
Clean.												
Clean.												
Clean.												
Good.	Good.			Good.	Good.		Good.	Good.	Good.	Good.		91
	Good.		Good.		Good.		Fair.		Good.	Good.	Fair.	90
	Good.		Good.		Good.	Good.	Good.	Good.	Good.	Good.	Fair.	91
					Good.	Good.	Good.	Good.	Good.	Good.	Good.	91
	Good.			Good.	Fine.		Good.	Good.	Good.	Good.		91
				Good.	Good.		Good.	Good.	Good.	Good.		91
Good.												

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surround- ings.
Sanilac Co.—Con:					
Port Huron Cream Station.....	Crosswell.....	D. S. Miller.....			Good..
L. H. Reidel Creamery.....	Minden City.....	L. H. Reidel.....		50,000	Good..
Sandusky Creamery.....	Sandusky.....	W. T. Leonard & Co.....			Good..
Union Creamery Co.....	Deckerville.....	F. F. Bugess.....		207,000	Good..
Shiawassee County, May:					
Henderson Butter Co.....	Henderson.....	John Epton.....		53,000	Good..
St. Clair County, May:					
St. Clair Creamery.....	St. Clair.....	Chas. H. Otter.....	2,196,618		Good..
Van Buren County, May:					
Hartford Creamery.....	Hartford.....	G. W. Schopback.....		79,615	Good..
Lawrence Cooperative Creamery.....	Lawrence.....	Lawrence Cooperative Creamery Co.....	3,749,618	133,010	Good..
Washtenaw County, May:					
F. J. Fletcher & Co. Creamery.....	Willis.....	C. E. Alban.....			Fair..
Wayne County, May:					
Highland Park Creamery.....	Highland Park.....	Geo. E. Brown.....	8,918,000		Good..
Nash Creamery.....	Plymouth.....	P. A. Nash.....		18,887	Fair..
Snell Creamery.....	Highland Park.....	Lawrence Snell.....	4,580,000		Good..
Van Buren Creamery.....	Belleville.....	J. Ammermon.....	3,320,363	151,219	Good..
Wayne Creamery.....	Wayne.....	Howard Johnston.....			Good..
Wolverine Creamery.....	Detroit.....	E. DeMuth.....		63,000	Good..
Baraga County, June:					
Farmers Creamery Co.....	Pelki.....	Chas. Heuss.....			Fair..
Calhoun County, June:					
Athens Creamery Co.....	Athens.....	R. P. Wisner.....		101,000	Bad..
Jackson City Cream Station.....	Athens.....	Jackson City Cry. Co.....			Good..
Maple City Creamery Co.....	Albion.....	D. S. Birdsell.....		23,000	Good..
Marshall Creamery Co.....	Marshall.....	Louis Wehrle.....		104,506	Good..
Milk Products Co. Creamery.....	Battle Creek.....	F. W. Sullivan.....	2,400,000		Fair..
Sharps Milk Depot.....	Battle Creek.....	B. S. Sharpe.....			Fair..
Towars Cream Station.....	Albion.....	Towars Wayne Co. Cry.....			Good..
Dickinson County, June:					
Best Brothers.....	Iron Mountain.....	Best Bros.....		40,000	Good..
Norway Creamery Co.....	Norway.....	F. Copeland.....			Good..
Gogebic County, June:					
Buss Creamery.....	Ironwood.....	A. C. Buss.....		200,000	Good..
Houghton County, June:					
Chassell Creamery Co.....	Chassell.....	E. A. Hamar.....			Good..
Jackson County, June:					
Lakeside Elgin Creamery Co.....	Grass Lake.....	J. M. Rohrer.....	5,303,934	240,725	Fair..
Parma Butter Co.....	Parma.....	Joe. Helmer.....	4,246,260	240,871	Fine..
Kalamazoo County, June:					
Riverside Creamery.....	Galesburg.....	Stafford & Whitney.....		110,000	Good..

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good ..	.....	.....	.....	.....	Good ..	.....	Good ..	Good ..	Good ..	Good ..	.....	.....
Good ..	Good ..	.....	.....	Good ..	Good ..	.....	Good ..	Good ..	Good ..	Good ..	.....	90
.....	.....	.....	.....	.....	Fine ..	.....	.....	Fine ..	.....	.....	.....	91
Good ..	Good ..	.....	.....	.....	Good ..	.....	Good ..	Good ..	Good ..	Good ..	.....	92
Clean ..	Good ..	Clean ..	Clean ..	.....	Clean ..	Clean ..	Good ..	.....	Good ..	Good ..	Very good ..	.....
Clean ..	Good ..	.....	.....	.....	Clean ..	.....	Good ..	Good ..	Good ..	Good ..	.....	91
Clean ..	Clean ..	Clean ..	Clean ..	Clean ..	Clean ..	Clean ..	Good ..	Clean ..	Good ..	Good ..	Fair ..	93
Clean ..	Good ..	Good ..	Clean ..	.....	Clean ..	Clean ..	Fair ..	Clean ..	Good ..	Good ..	Fair ..	92
.....	Good ..	Clean ..	Clean ..	Clean ..	Clean ..	.....	Good ..	.....	Good ..	Good ..	Good ..	.....
Clean ..	Good ..	.....	.....	Clean ..	Clean ..	.....	Good ..	Clean ..	Good ..	Good ..	Good ..	90
Clean ..	Good ..	Good ..	Clean ..	Clean ..	Clean ..	.....	Good ..	Good ..	Good ..	Good ..	Good ..	.....
Clean ..	Good ..	Clean ..	Clean ..	Clean ..	Clean ..	Clean ..	Good ..	Clean ..	Good ..	Good ..	Fair ..	94
Clean ..	.....	.....	.....	Clean ..	Clean ..	.....	Good ..	Clean ..	Good ..	Good ..	Good ..	92
.....	.....	.....	.....	Good ..	.....	.....	.....	Fair ..	Good ..	Good ..	.....	.....
Clean ..	Fair ..	.....	.....	.....	Clean ..	.....	Bad ..	Clean ..	Fair ..	Fair ..	.....	90
Clean ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean ..	Good ..	.....	.....	.....	Clean ..	.....	Good ..	Clean ..	Good ..	Good ..	.....	92
Clean ..	Good ..	.....	.....	.....	Clean ..	.....	Fair ..	Clean ..	Good ..	Good ..	.....	91
Clean ..	Clean ..	Good ..	Clean ..	Clean ..	Clean ..	.....	Good ..	Clean ..	Good ..	Good ..	Good ..	.....
Clean ..	.....	.....	.....	Clean ..	Clean ..	.....	.....	.....	Good ..	Good ..	Good ..	.....
.....	.....	.....	.....	Good ..	Good ..	.....	Good ..	Good ..	Good ..	Good ..	.....	91
.....	.....	.....	.....	.....	Good ..	.....	Good ..	Good ..	Good ..	.....	.....	90
Good ..	.....	.....	.....	.....	Good ..	.....	.....	Good ..	Good ..	.....	.....	.....
Good ..	.....	.....	Good ..	.....	Good ..	.....	.....	Good ..	Good ..	Good ..	.....	.....
Clean ..	Clean ..	Clean ..	Clean ..	.....	Clean ..	Clean ..	Fair ..	Clean ..	Good ..	Good ..	Fair ..	93
Clean ..	Clean ..	Clean ..	Clean ..	Good ..	Clean ..	Clean ..	Good ..	Clean ..	Good ..	Good ..	Fair ..	96
Clean ..	.....	.....	.....	.....	Clean ..	.....	Good ..	Clean ..	Good ..	Good ..	.....	90

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surroundings.
Kent County, June:					
Caledonia Cooperative Creamery	Caledonia	Jacob Ruess		249,000	Good..
Mackinac County, June:					
Engadine Butter Co.	Engadine	H. B. Goodwin		20,000	Good..
Mecosta County, June:					
Pogy Cream Station	Hersey	Clifford Wilson			Good..
Menominee County, June:					
I. X. L. Creamery Co.	Hermansville			45,000	Good..
Oakland County, June:					
Pontiac Cooperative Creamery	Pontiac	F. C. King	900,880	53,160	Good..
Oscoda County, June:					
Ewart Creamery	Ewart	G. A. & J. M. Glenim		35,000	Good..
Geo. Johnson Cream Station	Ewart	George D. Johnson			Good..
Hersey Creamery	Hersey	Freeman Barberes		80,000	Good..
Mich. Creamery Co. Cream Station	Ewart	John F. Adams			Good..
Mich. Creamery Co. Cream Station	Reed City	Wm. Folger			Good..
Mich. Creamery Co. Cream Station	Hersey	C. W. Blanchard			Good..
Reed City Butter Co.	Reed City	R. E. Smith		80,000	Good..
F. S. Smith Cream Station	Hersey	F. S. Smith			Good..
Spencer & Howe Cream Station	Ewart	John W. Davis			Good..
Swift & Co. Cream Station	Reed City	S. S. Carr			Good..
Washtenaw County, June:					
Ann Arbor Creamery	Ann Arbor	Eaton & Allen			Good..
Medina Creamery Co. Cream Station	Milan	Medina Creamery Co.			Fair..
Towars Milk Station	Foster	Towars Wayne Co. Cry. Co.			Good..
Whittaker Milk Station	Whittaker	Towars Wayne Co. Cry. Co.			Med..
Wurster Bros. Creamery	Ann Arbor	Wurster Bros.			Good..
Wayne County, June:					
Goldbrook Creamery	Detroit	John Schlaff	12,500,000	58,412	Good..

CREAMERIES.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good...	Good..	.....	.....	Good..	Good..	.....	Good..	Good..	Good..	Good..	.....	92
.....	Good..	.....	.....	Good..	Good..	.....	Good..	.....	Good..	Good..	.....	91
Good..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Good..	Good..	.....	.....	Good..	Good..	Good..	Good..	Good..	Good..	Good..	.....	90
Clean..	.....	Clean..	Clean..	.....	Clean..	.....	Fair..	Clean..	Good..	Good..	Good..	90
Good..	.....	.....	.....	Good..	Good..	.....	Good..	Good..	Good..	Good..	.....	91
Good..	Good..	.....	.....	Good..	Good..	.....	Good..	Fine..	Good..	Good..	.....	91
Good..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Good..	Good..	.....	.....	Good..	Good..	.....	Good..	Good..	Good..	Good..	.....	90
Good..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Good..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean..	Good..	.....	.....	Good..	Clean..	.....	Good..	Good..	Good..	Good..	.....	90
Clean..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	Clean..	Clean..	.....	.....	.....	.....	.....	Good..	.....
Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Fair..	.....	Good..	Good..	Fair..	.....
Clean..	Clean..	Good..	Clean..	Clean..	Clean..	.....	Good..	Clean..	Good..	Good..	Good..	92
Clean..	Good..	Clean..	Clean..	Clean..	Clean..	.....	Good..	Clean..	Good..	Good..	Good..	90

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese, pounds.	Style.
Bay County, May:					
Fraser Cheese Co.	Piiconning.	John H. Coggins.			Soft Michigan.
Saginaw County, May:					
South Brant Cheese Factory.	Brant.	L. A. Snyder.			Soft Michigan.
Sanilac County, May:					
Downington Cheese Factory.	Downington.	Henry Muir.		80,000	
Shiawassee County, May:					
Henderson Cheese Co.	Henderson.	M. C. Dowd.			Soft Michigan.
Bay County, June:					
Willard Cheese Factory.	Willard.	H. M. Schmidt Co.	1,290,000	129,080	Soft Michigan.
Huron County, June:					
Rice Bros. Cheese Factory.	Elkton.	Rice Bros.			Soft Michigan.
Menominee County, June:					
Spalding Cheese Factory.	Spalding.	Frank Beatson.			
St. Clair County, June:					
Germania Cheese Co.	Marine City.	Germania Cheese Co.	208,400	21,913	Limburger.
Maple Grove Cheese Factory.	Maple Grove.	Maple Grove Cheese Co. ..	519,405	53,806	Limburger & Cream. ..
Pine Grove Cheese Factory.	Pine Grove.	Pine Grove Cheese Co. ..	619,840	62,917	Limburger & Cream. ..
Review Cheese Factory.	Marine City.	Review Cheese Mfg. Co. ..			Limburger.

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Valv.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
H. J. Roboldt.....	Fair.....	2, good...	1, gang...		Poor.....		12 H. P..	Fair.....	Artificial.
H. W. Ruff.....	Fair.....	1, fair....	1, gang...				6 H. P..	Fair.....	
Henry Muir.....	Good.....	2, good...	Gang.....		Fair.....		10 H. P..	Fair.....	
M. C. Dowd.....	Good.....	2, good...	1, gang...		Good.....		6 H. P..	Good.....	
W. A. Grimm.....	Good.....	2, good...	2, gang...		Good.....		10 H. P..	Good.....	Natural.
L. Rice.....	Good.....	2, good...	2, gang...		Good.....		25 H. P..	Good.....	Artificial.
W. S. Young.....	Good.....	1, good...	Gang.....		Good.....			Good.....	
F. J. Houch.....	Fair.....	1, clean...			Fair.....		4 H. P..	Fair.....	
G. Zeivnig.....	Good.....	1, clean...			Fair.....		4 H. P..	Very good..	
Nick Andrews.....	Good.....	1, clean...			Fair.....		6 H. P..	Very good..	
A. Brenner.....	Good.....	1, good...			Fair.....		4 H. P..	Fair.....	

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Cadillac, May:											
John Anderson.....	80	90	78	90	20	358	Poor.....				
Frank Anderson.....	72	75	65	65	55	322	Poor.....				
C. O. Dahlquist.....	80	85	72	73	77	387	Poor.....				
Harold Green.....	80	93	83	90	80	426	Medium.....				
Wm. Hofstra.....	77	80	83	86	80	406	Medium.....				
Chas. Jacobson.....	73	80	73	87	50	363	Poor.....				
Wm. Kimble.....	90	87	85	91	88	441	Medium.....				
L. Larson.....	80	100	83	92	80	435	Medium.....				
Geo. Ley.....	85	82	83	87	91	428	Medium.....				
Morning Side Dairy.....	100	100	91	95	92	478	Good.....				
Chas. Omsted.....	75	80	50	63	40	308	Poor.....				
Harry Zelma.....	75	90	78	90	88	421	Medium.....				
Charlotte, May:											
W. H. Childs.....	82	68	91	76	90	407	Medium.....				
Ypsilanti, May:											
A. H. Ainsworth.....	100	95	85	96	100	476	Good.....				
O. H. Ainsworth.....	98	95	85	96	100	474	Good.....				
Jay Kapp.....	93	90	85	95	100	463	Good.....				
Sidnaw, June:											
W. S. Prickett.....	100	100	100	95	100	495	Excellent.....	6.4	31	15.43	9.03
Traverse City, June:											
Tom Brady.....	80	95	80	90	85	430	Medium.....				
Adolph Brosch.....	100	100	85	95	100	480	Excellent.....				
Kapnick & Olsson.....	80	95	83	95	100	453	Good.....				
Bert Kilmer.....	90	100	85	95	100	470	Good.....				
Steve Lautner.....	83	95	85	95	95	453	Good.....				
Owen Merrill.....	80	80	80	95	80	415	Medium.....				
Geo. Sachleben.....	80	95	85	95	90	445	Medium.....				

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1914

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING.

JAMES W. HELMECOMMISSIONER
BURR B. LINCOLNDEPUTY COMMISSIONER
FERN L. SHANNONSTATE ANALYST
M. J. SMITHCHIEF CLERK
A. R. TODDDRUG ANALYST

"GOING UP."

BY JAMES W. HELME.

Mr. High-Priced-Meat after doing several amateur aerial stunts during the past year, has finally joined the professional ranks and made an out-of-sight ascension and gone to Europe. Now that the balloon has gone out of sight, there is nothing for the spectator to do but look around and wonder what to do about it.

The public should at once get educated on what constitutes a cheap balanced ration for the human animal. Two kinds of foods are necessary for human life. The carbohydrates which furnish heat and energy and the proteins which repair the bodily waste. The first are obtained by starchy or fat foods and are easily and cheaply obtained from potatoes and the cereals. Protein to repair bodily waste has generally been obtained through meat. But there are other sources of protein much cheaper. A working man needs three ounces of protein daily to repair the bodily wastes. Before the balloon went up this could be obtained in beef steak for 17c. Some vegetable foods contain a large amount of protein. Three ounces of protein in the form of beans can be obtained for $\frac{1}{2}$ what it costs in beefsteak. The moral to the housewife is to feed the "old man" more beans and less beefsteak. Peas and lentils are also rich in protein. A quart of milk has more food value than a pound of meat and is more easily digested. Cheese has a much greater food value than meat, pound for pound. Canned salmon has a much greater food value than any meat and costs less. Meat is not necessary for human existence. This is maintained by as great an authority as Dr. Kellogg of Battle Creek, who has raised a family of 22 children and ought to know from experience. Potatoes and corn meal are the cheapest form of starchy foods. Michigan produces more beans and potatoes than any state in the Union, and is third in the production of cheese and milk. Michigan people ought not to be embarrassed because meat has taken a flyer. Moreover, beef is often tubercular. Pork has at times the trichina worm and mutton is sometimes "measly" which contains the germ of the tape worm, so we are missing a lot of things if we don't eat meat.

In anticipation of the war this Department has had printed 20,000 copies of a bulletin on Foods and Food Values, which can be had free on application. It shows the food value of all common foods. From it the housewife can figure out a balanced ration that will keep the human engine going without paying 40c a pound for beefsteak. If we all cut out a greater part of the meat we eat, we will have better health and at the same time put a hole in the high-priced meat balloon with the old gun "lack of demand" that will make it come down within reach again. Education of food consumers on food values is the most available remedy at present for the high cost of living.

MICHIGAN STATE FAIR.

The next regular monthly butter and cheese scoring conducted by this department will be held in connection with the Michigan State Fair in Detroit, September 7-18 inclusive.

This Department will be in charge of the entries and exhibit some in the large glass refrigerator which has been erected in the new Dairy Building. The Fair rules provide that each entry for both butter and cheese must consist of not less than 20 lbs. in the factory class. For dairy butter a 5 lb. package is required.

A liberal premium is being offered by the State Fair Association consisting of \$300 for the creamery butter, \$200 for cheese, regardless of class or type, and \$50 to be divided as follows:

Creamery Butter. First prize, \$25.00. Second prize, \$15.00. Third prize, \$10.00. The balance is to be divided on a pro-rata basis with 90 points as a minimum.

Cheese. First prize, \$20.00. Second prize, \$12.00. Third prize, \$8.00. Balance to be divided pro rata with a minimum of 90 points.

Dairy Butter. First prize, \$8.00. Second prize, \$5.00. Third prize, \$3.00. Balance pro-rata with 88 points as a minimum. The winners of the first, second and third prizes are not to participate in the pro-rata fund.

The usual entry fee of \$2 will be charged which entitles the exhibitor to an exhibition ticket which will be mailed promptly on receipt of entry. At the close of the Fair the entries will be sold to the best advantage and remittance made by this department less express or transportation charges and \$2 entry fee which will be turned over to the Fair Association who will in turn mail out the prizes and pro-rata divisions. Entry blanks and shipping tags together with the 20 lb. tub to be used for creamery butter will be furnished free of charge on request by this department, the same as in our regular monthly educational scorings. The regular division credits embodying the commercial, judgmentship, accurate analysis and composition scores will also be computed and sent out in the regular way.

With the State Fair Scoring the present series of scorings which have been conducted by this department will be concluded, credits averaged and diplomas issued to those that have the required number of entries and average points. Analyses of the large number of method blanks and results of the work with conclusions will also be made in compiled form after which it is hoped to continue the work of conducting the scorings on a still more efficient and constructive basis. Our new feature—that of considering the patron in these scorings—in which the Departments will make an effort to bring about improvement in the quality of the raw material by monthly letters to the patrons of those creameries participating in the scorings and being inaugurated with the July entries, is proving very popular. Enough requests for these letters have been received to require an issue of 20,000 copies.

Butter and cheese entries for the State Fair Scoring must be in Detroit not later than September 4th. State Dairy and Food Inspectors, C. V. Jones, C. R. Webb and the writer will do the judging of the entries and the results of the scoring will be sent to each exhibitor by card as soon as the work is completed. Michigan should be represented at the State Fair with at least 200 entries of butter and cheese together so that the many thousands of people who visit the Fair may know the importance of the Dairy industry in Michigan. Will You Help?

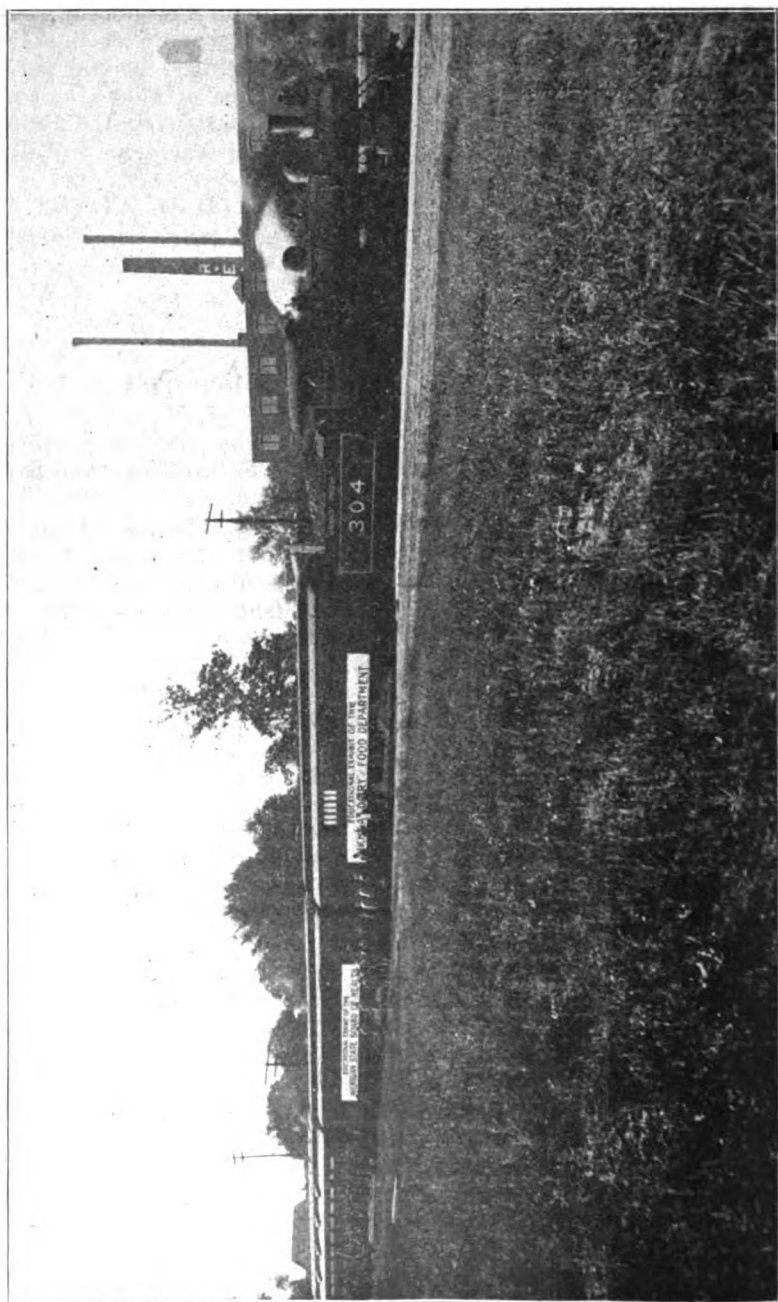
H. D. WENDT,
In Charge Dairy Mfg. Division.

THE HEALTH AND FOOD SPECIAL TRAIN.

The Dairy and Food Department in co-operation with the State Board of Health duplicated its performance of last year and ran another educational exhibit train during the month of August.

The train consisted of two 60 ft. baggage cars, one loaned the Dairy and Food Department by the Minneapolis, St. Paul and Sault Ste. Marie Railroad, the other loaned the Board of Health by the Grand Trunk Railroad and a third a Pullman furnished by the Pullman Company. The baggage cars were filled with exhibits from the two departments, while the Pullman was used as sleeping quarters by the demonstrators who accompanied the train. Each Department sent out 5 men with the train, each man being especially informed on some one topic which was illustrated among the exhibits. The following men represented this department and accompanied the train throughout the entire trip: F. L. Shannon, State Analyst, W. C. Geagley, Assistant State Analyst, C. R. Webb, Dairy and Creamery Expert, R. E. Woodruff, Deputy Weights and Measures Inspector and Dr. E. J. McLaughlin, U. S. Veterinary Inspector from the U. S. Department of Agriculture. Each man took charge of that part of the exhibit with which he had expert knowledge of and delivered short lectures at each stop. Another member of the force kept about four days ahead of the train distributing hand-bills and other advertising matter.

The train left Lansing, August 2nd, on the Grand Trunk Railroad, proceeding up the eastern coast of the State to Mackinaw City. Here we crossed the Straits and toured the entire Upper Peninsula, completing the trip August 29th. About fifty stops were made in all; no stop was less than one hour, the majority being from one-half to one day. With very few exceptions we were greeted by large crowds at every stop who passed through the cars listening to the talks and carrying away literature. It is estimated that on the whole trip 75,000 people viewed these exhibits. Over 20,000 bulletins on various subjects were distributed by this Department, each bulletin being placed directly into the hands of an interested reader. By this means many people who did not have an opportunity to visit the train were benefited.



HEALTH AND FOOD SPECIAL, AUGUST 2, 1914.

After the initial tour was completed, special tracks were laid on the Fair Grounds of the Western Michigan Fair at Grand Rapids and the train was one of the attractions during the ten days of the fair. From there the train was taken to the State Fair at Detroit and the exhibits remained there during the two weeks of the Fair.

It is only due to the benevolent attitude of the railroads that such educational propagandas as these are possible. The entire equipment of this train was furnished free by the railroads and the Pullman Company. The roads over which the train run, viz., Grand Trunk, Pere Marquette, Detroit and Mackinac, Michigan Central, Duluth, South Shore & Atlantic, Minneapolis, St. Paul & Sault Ste. Marie, Chicago & North Western, Chicago, Milwaukee & St. Paul and Copper Range furnished us with an engine and special crew and with the exception of one slight mishap the train was handled throughout the entire trip in an excellent manner.

SOME OF THE PRESS NOTICES OF THE TRAIN.

The Dairy and Food car is of keen interest to those interested in the work of that important commission, headed by "Jim Helme."

A very extensive exhibit on "Weights and Measures" is a feature of the car. During the past year, inspectors of the department have been gathering together short measures, dented measures, scales that have been tampered with, drilled weights and many other ingenious devices to defraud the public, all of which are worked into an attractive exhibit.

The exhibit on fakes and frauds, showing up the many fakes that are being sold as cure-alls for all diseases, has been built over and is making even a bigger hit than it did last year.

Misbranded and mislabeled foods bring home the fact that some manufacturers hew so close to the line that they sometimes step over. Specimens of advertising and pictures of window displays are in evidence and show that they are plainly gotten up to deceive.

An extensive exhibit on Tuberculosis in Dairy cattle is another feature which has been improved upon. Many specimens of meat from tubercular animals have been secured and are put up in glass jars so they can be seen at their worst. This exhibit is in charge of an expert on tuberculosis in cattle from the United States Department of Agriculture. A lecture on this important topic is given at each stop.

Another feature which is of great interest to Dairymen is the arrangement and plans of the model dairy house. Three rooms have been partitioned off in the car, each one to represent a room in a small dairy house. Each room is fully equipped with all the modern dairy apparatus necessary for the production of clean milk. That much dirty milk finds its way to the market is graphically illustrated by showing cotton pads containing the filth and dirt taken from this popular beverage.

That Mother's Milk is the only milk for infant feeding is tellingly brought home by a new model entitled "Mother's Milk for Mother's Babies"—"Cow's Milk for Calves."

A new model illustrating the dangers of the common house fly is a departure from the many models seen on this subject and is very in-

generously gotten up. Placards condemning this dangerous pest are everywhere in evidence.

The telling work of the Pure Food Commission has been so much in evidence during the past year that this car attracts much attention.

The Health and Food Special now touring the State spent the entire day, August 3d, in Port Huron. Several thousand people visited the exhibits during the day and evening. The two cars are exceptionally arranged and cannot fail to bring home many important facts on health, sanitation, pure food, pure medicines and pure milk.

Dr. Duff, health officer of Port Huron said, "These exhibits will do more for sanitation and civics than tons of literature and dry talks."

Over 300 people turned out to view the exhibits at Deckerville and were greatly interested. It is not necessary to say that there is a healthy sanitary sentiment at this place.

At Harbor Beach the home of Deputy Dairy and Food Commissioner, B. B. Lincoln, the exhibits were viewed by thousands of people and the interest shown was exceptional. Harbor Beach has no sewerage system and for that reason is menaced by insanitary conditions. Dr. Armitage of that city hit the nail on the head when he said, "The trouble with the people is that they spend thousands of dollars for 'repair' and hundreds of dollars for 'prepare.'"

Henry Ford the Detroit Auto manufacturer visited the train at Harbor Beach. He took great interest in inspecting the exhibits, spending considerable time in both cars. He heartily endorsed the movement undertaken by the two State Departments, for spreading information on these important topics in this manner.

The Health and Food Special Train is on its way to the Copper Country. For the past few days the Special has been slowly making its way along the Minneapolis, St. Paul & Sault Ste. Marie and the Chicago & Northwestern Railroads. Friday the train was in Gladstone and Escanaba. The enthusiasm and interest was exceedingly gratifying. Crowds of people greeted the train at both places. Favorable comments were heard on all sides.

The exhibit on Fake Cure-alls, Fake medicines and Fake Beauty Remedies attracted attention. That people pay \$1.00 for a bottle of sugar and water for a Catarrh Cure or \$2.00 for a small vial of sugar pellets to cure appendicitis is clearly illustrated. Epsom Salts colored pink and perfumed are sold as a complexion remedy. Borax put up in a neat package and clothed with a fancy name brings 75 cents as a shampoo powder. The value of testimonials is demonstrated. Testimonials are shown that tell how five people recovered from consumption by the use of a consumption cure. All five are now in their graves but their testimonials read that they were cured.

Dr. A. H. Miller, Health Officer, Gladstone, said: "The Health and Food Special Train is the best object lesson on pure food and sanitation my people ever had a chance to learn."

A mechanical demonstrator shows how one baby out of every 7 born dies before it reaches the second year of its existence. Advice to mothers

"HEALTH FIRST"

AND

"PURE FOOD"

SPECIAL

CARRYING EDUCATIONAL EXHIBITS FROM

Michigan Dairy and Food Dept.

AND

Michigan State Board of Health

WILL BE IN

PLACE.	DATE.	TIME.	STATION.	PLACE.	DATE.	TIME.	STATION.
Lapeer.....	Aug. 3.....	7:30 a. m. to noon.	G. T.	Powers.....	Aug. 14.....	8:20 p. m. to 7:00 a. m. Aug. 15.	C. & N. W.
Imlay City.....	Aug. 3.....	12:20 to 2:20 p. m.	G. T.	Norway.....	Aug. 15.....	7:40 a. m. to 10:40 a. m.	C. & N. W.
Cape.....	Aug. 3.....	2:22 to 4:22 p. m.	G. T.	Iron Mountain.....	Aug. 15.....	10:55 a. m. to 2:00 a. m. Aug. 17.	C. M. & St. P.
Port Huron.....	Aug. 3.....	5:20 p. m. and remaining all day		Sidnaw.....	Aug. 17.....	4:50 a. m. to 6:00 a. m.	D. S. & A.
		Tuesday, Aug. 4.....	P. M.	Bessmer.....	Aug. 17.....	9:30 a. m. to 12:30 p. m.	D. S. & A.
Crowell.....	Aug. 5.....	8:00 a. m. to 9:30 a. m.	P. M.	Trout Creek.....	Aug. 17.....	3:00 p. m. to 4:00 p. m.	D. S. & A.
Carsonville.....	Aug. 5.....	9:15 a. m. to 10:15 a. m.	P. M.	Sidnaw.....	Aug. 17.....	6:00 p. m. to 4:50 a. m. Aug. 18.	D. S. & A.
Decker ville.....	Aug. 5.....	10:45 a. m. to 11:45 a. m.	P. M.	McKeever.....	Aug. 18.....	5:50 a. m. to 7:00 a. m.	Copperrange.
Harbor Beach.....	Aug. 5.....	12:30 p. m. to 7:30 a. m. Aug. 6.	P. M.	Greenland.....	Aug. 18.....	7:15 a. m. to 9:15 a. m.	Copperrange.
Bad Axe.....	Aug. 5.....	9:00 a. m. to 11:00 a. m.	P. M.	Palmersdale.....	Aug. 18.....	10:20 a. m. to 12:00 noon.....	Copperrange.
Schewang.....	Aug. 5.....	12:00 noon to 2:00 p. m.	P. M.	South Range.....	Aug. 18.....	12:10 p. m. to 3:50 p. m.	Copperrange.
Akron.....	Aug. 6.....	2:30 p. m. to 3:30 p. m.	P. M.	Atlantic.....	Aug. 18.....	3:05 p. m. to 5:00 p. m.	Copperrange.
Bay City.....	Aug. 6.....	5:45 p. m. no stop.		Houghton.....	Aug. 18.....	5:15 p. m. to 7:30 a. m. Aug. 21.	Copperrange.
Tawas City.....	Aug. 6.....	7:20 p. m. to 10:00 a. m. Aug. 7.	D. & M.	Dollar Bay.....	Aug. 21.....	7:45 a. m. to 9:45 a. m.	Copperrange.
Au Sable.....	Aug. 7.....	10:20 a. m. to 12:30 noon.	D. & M.	Lake Linden.....	Aug. 21.....	10:00 a. m. to 12:00 noon.	Copperrange.
Harrisville.....	Aug. 7.....	1:00 p. m. to 2:00 p. m.	D. & M.	Laurium.....	Aug. 21.....	12:20 p. m.—stay all afternoon.	Copperrange.
Alpena.....	Aug. 7.....	2:50 p. m. to 11:50 p. m. Aug. 9.	D. & M.	Calumet.....	Aug. 22.....	9:00 a. m. to 5:00 p. m. Aug. 23.	Copperrange.
Onaway.....	Aug. 10.....	1:15 a. m. to 10:00 a. m.	D. & M.	Houghton.....	Aug. 23.....	6:00 p. m. to 7:00 a. m. Aug. 24.	D. S. & A.
Toscar.....	Aug. 10.....	10:10 a. m. to 11:10 a. m.	D. & M.	Chassell.....	Aug. 24.....	7:30 a. m. to 8:30 a. m.	D. S. & A.
Cheboygan.....	Aug. 10.....	11:50 a. m. no stop		Baraga.....	Aug. 24.....	9:30 a. m. to 11:30 a. m.	D. S. & A.
St. Ignace.....	Aug. 11.....	9:00 a. m. to 1:00 p. m.	D. S. & A.	Michiganville.....	Aug. 24.....	1:30 p. m. to 2:30 p. m.	D. S. & A.
Trout Lake.....	Aug. 11.....	2:15 p. m. to 4:15 p. m.	M. St. P. & S.	Isbipening.....	Aug. 24.....	3:45 p. m. to 11:00 a. m. Aug. 25.	D. S. & A.
Engadine.....	Aug. 11.....	5:15 p. m. to 8:00 p. m.	M. St. P. & S.	Negaunee.....	Aug. 25.....	11:15 a. m. to 1:15 p. m. Aug. 25.	D. S. & A.
Manistique.....	Aug. 11.....	9:05 p. m. to 12:01 a. m. Aug. 12.	M. St. P. & S.	Marquette.....	Aug. 25.....	2:00 p. m. to 12:00 noon Aug. 26.	D. S. & A.
Cladoute.....	Aug. 12.....	2:15 p. m. to 7:15 p. m.	M. St. P. & S.	Newberry.....	Aug. 26.....	3:50 p. m. to 5:50 p. m. Aug. 26.	D. S. & A.
Escanaba.....	Aug. 12.....	7:45 p. m. to 12:20 p. m. Aug. 13.	C. & N. W.	Sault Ste. Marie.....	Aug. 26.....	8:50 p. m. to 8:00 a. m. Aug. 28.	D. S. & A.
Black River.....	Aug. 13.....	12:55 p. m. to 1:55 p. m.	C. & N. W.	Brimley.....	Aug. 28.....	8:40 a. m. to 10:40 a. m. Aug. 28.	D. S. & A.
Spaulding.....	Aug. 13.....	2:15 p. m. to 3:15 p. m.	C. & N. W.	St. Ignace.....	Aug. 28.....	2:00 p. m.	D. S. & A.
Powers.....	Aug. 13.....	3:20 p. m. to 7:15 a. m. Aug. 14.	C. & N. W.	MacKinnon City.....	Aug. 28.....	3:15 p. m. to 10:15 p. m.	G. R. & L.
Stevenson.....	Aug. 14.....	7:55 a. m. to 9:55 a. m.	C. & N. W.	Constock City.....	Aug. 29.....	6:30 a. m.	G. R. & L.
Menominee.....	Aug. 14.....	10:35 a. m. to 7:00 p. m.	C. & N. W.			Remain during West Michigan	State Fair.

Special demonstrators will accompany this train and will explain the exhibits and answer questions.
Literature on all subjects freely distributed.

THE GREATEST EDUCATIONAL EXHIBIT THE STATE OF MICHIGAN HAS EVER SHOWN

REMEMBER THE TIME REMEMBER THE PLACE REMEMBER THE DATE

The entire railroad equipment and transportation of this exhibit is furnished free by the railroads and the Pullman Car Company, operating in this state, through the special kindness of Mr. E. E. P. Nugent, Pres., and Mr. W. B. Wood, Gen'l Manager, G. E. & L. Railway, and the Michigan Railroad Commission.

JOHN L. BURKART,
Secretary State Board of Health.

JAMES W. HELME,
Dairy and Food Commissioner

on the proper care of infants and bulletins on this important topic are freely distributed.

Everybody is interested in the extermination of the fly. That flies are born in filth, live in filth and carry filth to your food and to your sick rooms is clearly illustrated by means of models on this subject. Bulletins are given away telling you how to prevent flies from breeding in manure piles and other places.

The exhibit on tubercular infected meat and the lecture given by Dr. E. J. McLaughlin, Federal Meat Inspector, who is in charge of this exhibit created enthusiastic attention. Specimens of the various organs of both cattle and swine are prepared in a very unique manner and cannot fail to create interest among dairy farmers and others that will eventually wake them up to the fact that this disease must be reckoned with in the promotion of dairying.

Cloverland is the coming Dairy country of Michigan. Great interest was shown in the exhibit on Dairying. Three rooms have been partitioned off in the car. They represent the interior arrangement of a small dairy house. All are equipped with the latest utensils for securing clean milk. A practical model cow stall that can be built by anybody and that will keep cows clean is shown.

The typhoid death rate of Escanaba has been very high. It was due to the contaminated water supply. Escanaba will soon have a hypochloride plant for sterilizing the water. A new sewage disposal plant will be installed. A movement for a municipal garbage disposal plant has been started. Mayor Chatfield of Escanaba said: "This exhibit brings a matter to the attention of our people the value of which cannot be overestimated."

Mrs. A. L. Ryall, the only lady State Food Inspector in the Northern Peninsula in commenting on the exhibit said: "This exhibit is the greatest educational exhibit that I have ever had the pleasure of visiting." Mrs. F. L. Andrews, President of the Escanaba Woman's Club said: "There is so much to learn in these two cars on Pure Food and Sanitation that I wish you could stay here a week instead of a day."

The Health and Food Special Exhibit train is now in the Copper Country. The train arrived in Houghton, Tuesday evening, and remained all day Wednesday.

Many Houghton residents visited the train during the afternoon and evening and expressed themselves as well pleased with the exhibits. The train moved to Hancock, Thursday a. m. A record-breaking crowd was on hand at Hancock. It was estimated by the officials in charge of the train that 2,000 people viewed the exhibits after 7 o'clock in the evening. The enthusiasm and interest shown by the people of Hancock shows that they are eager to be up to the minute on all matters pertaining to the health of the community.

The people of Houghton County were greatly interested in the exhibit on weights and measures. The State Official in charge of this exhibit demonstrated clearly the necessity of having a county sealer. Many faulty weights and scales, short measures, dented measures, etc., are shown that clearly demonstrate how the consumer is defrauded. Milk

and cream bottles that are 1-2 ounces short on every pint are shown. Liquid measures that are sometimes used to measure such commodities as navy beans, peas, etc., instead of the dry quart measure, show how the consumer is cheated out of many dollars during the year. A scale that was found in a meat market by the inspector which registers seven and a half pounds when only five pounds are placed on the pan, is among the many interesting things in this exhibit. That the retailer is equally interested in having a county sealer to protect him from loss is demonstrated by showing a gallon measure found in a grocery store that nets the retailer a loss of two and three quarters gallons on every barrel. Houghton is the second richest county in the state and it seems that they can well afford a county sealer. The points brought out by this exhibit clearly demonstrates that the salary of the sealer would be saved many times over.

The Copper Country people were greatly interested in the milk exhibit; dirty cans that are used to transport cream and milk from the country to the city are shown. That much filth and dirt finds its way into milk is very vividly illustrated by showing cotton pads containing the dirt and barn-yard refuse that has been separated from milk.

The laboratory exhibit shows how the bacteria in dirty milk are determined. This exhibit also clearly demonstrates that the proper pasteurization of milk kills all bacteria. The comparison of the bacterial content of clean milk with that of dirty milk is clearly brought out. By the aid of two microscopes, actual living typhoid and tuberculosis germs are shown.

That the death rate among children under two years of age, due to diarrhoeal enteritis in Houghton county is greater than that of the state is graphically illustrated by means of statistical charts. The health officials attributed this to impure milk. On the other hand the death rate of the diseases of pneumonia, tuberculosis, typhoid fever, diphtheria and scarlet fever is shown to be less than that of the state for the year 1913. Charts show that cancer is on the increase in Michigan but that the death rate from typhoid fever and tuberculosis are on the decrease. Pulmonary tuberculosis decreased about eight per cent.

A well model shows clearly the dangers of drinking water taken from shallow or surface water wells. A great many people have the wrong idea of the purifying qualities of sand and gravel through which their shallow wells are sunk. The nitrifying bacteria and the oxygen of the air are the purifying agents. These agents are not found in the soil to depths greater than four feet.

Dr. Abrams of Hancock said of the train: "The people of the state are repaid a thousand fold by the good you are doing them with this train."

The State-wide tour of the Health and Food Special Train was resumed again Friday morning. The train left Bay City making its first stop at Tawas City. A good sized crowd visited the cars at this place. Dr. Crane, Health Officer, said: "This exhibit train is a wonder. I wish you could spend two days here instead of two hours."

AuSable and Harrisville were included in the stops Friday. Crowds greeted the train at both places and were very enthusiastic.

The train remained all day Saturday and Sunday in Alpena. The cars were thronged with crowds the entire two days. Alpena County has a sealer of weights and measures and the crowds were greatly interested in the weights and measures exhibit. Scales that register 10 lbs. when only 7 pounds are placed on the pan illustrates how the consumer pays for something he doesn't get. The amount of loss when liquid measures are used to measure beans and other dry commodities is very vividly shown. That the old fashioned 2 quart fruit jar is shown to be 1-2 pint short is a surprise to all housewives.

Alpena is greatly interested in the methods for the prevention of typhoid fever, the prevalence of which is due to their contaminated water supply. The health officials have recommended a mechanical filtration plant to do away with this evil.

Owing to the fact that it is a great lumber center the Michigan tuberculosis shack created much attention and hundreds of bulletins describing it were carried away.

Mayor Comstock entertained the Health and Food Officials at a dinner at the Country Club, Friday evening. He said of the train: "I am astonished at the simple way you have of showing things in those two cars. You certainly are doing the people of the state of Michigan a wonderful service."

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of July and August, 1914:

Acme, Adrian, Albion, Almont, Alpena, Angell, Ann Arbor, Athens, Baraga, Bates, Battle Creek, Bay City, Benton Harbor, Bigbay, Birch Run, Birmingham, Blissfield, Brighton, Buckley, Cadillac, Calumet, Caro, Cass City, Cedarville, Centerville, Charlevoix, Cheboygan, Chelsea, Chesterfield, Clifford, Climax, Clio, Conway, Dalton, Davison, Detroit, Dodgeville, Dollar Bay, Douglas, Dowagiac, Dryden, East Tawas, Ecorse, Elk Rapids, Ellington, Emery Junction, Engadine, Essexville, Fenville, Fenton, Fife Lake, Flint, Flushing, Frankfort, Gaylord, Gougac Lake, Grand Haven, Grand Rapids, Grant, Grayling, Greenland, Greenwood, Hamtramck, Hannah, Harbor Springs, Harrisville, Hessel, Highland Park, Holly, Houghton, Howell, Hubbell, Indian Lake, Jackson, Kalamazoo, Kaleva, Kewadin, Kingsley, Lake Harbor, Lake Odessa, L'Anse, Lansing, Layton Corners, Lennon, Lenox, Lincoln, Lowell, Luce, Ludington, Macatawa, Mackinac Island, Mackinaw, Manchester, Manistique, Manton, Marquette, Marshall, Mason, Mass, Mendon, Montrose, Moorland, Morenci, Mt. Clemens, Mt. Morris, Mt. Pleasant, Muskegon, Newberry, Newburg, New Hudson, Oden, Onaway, Ontonagon, Ortonville, Oskar, Ottawa Beach, Owosso, Pellston, Pequaming, Perry, Petoskey, Plainwell, Rockland, Saginaw, St. Clair, St. Ignace, St. Joseph, Saline, Saranac, Saugatuck, Sonoma, South Haven,

Spruce, Tecumseh, Tekonsha, Thompsonville, Three Rivers, Tower, Trent, Trout Creek, Utica, Vicksburg, Walloon Lake, Wexford, Whitmore Lake, Williamsburg, Wixom, Woodbury, Ypsilanti.

PROSECUTIONS:

Since beginning of fiscal year July 1, 1914.

Cases pending July 1, 1914	18
Cases commenced since said date	72

CASES DISPOSED OF.

Before examining magistrates:

Defendants bound over	24
Defendants discharged	2

In trial courts:

Defendants convicted	42
Defendants acquitted	0

Cases pending September 1, 1914	46
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In the case pending in justice court, city of Sault Ste. Marie, against Charles Marion charged with selling renovated butter without stamping same. August 24, 1914, defendant dismissed on payment of \$5 costs.

In the case pending in justice court, city of Sault Ste. Marie, against Albert Wheatley charged with selling oleomargarine without displaying sign. August 24, 1914, defendant dismissed on payment of \$5 costs.

In the case pending in justice court, city of Sault Ste. Marie, against E. C. Reidy charged with selling renovated butter without stamping same. August 24, 1914, defendant dismissed on payment of \$5 costs.

In the case pending in justice court, city of Sault Ste. Marie, against J. A. Roberg, charged with selling oleomargarine without displaying sign. August 24, 1914, defendant dismissed on payment of \$5 costs.

In the case pending in circuit court, county of Wexford, against the proprietor of the Cooperative Hotel charged with serving oleomargarine without displaying sign. Defendant entered a plea of guilty.

In the case pending in circuit court, county of Wexford, against Frank Cornwell, charged with selling oleomargarine without displaying sign. Defendant entered a plea of guilty.

Complaint was made July 6 in justice court, city of Petoskey, against Smith & Lake, charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made July 7 in justice court, city of Charlevoix, against Horace R. Fowler, charged with selling sausage containing an excessive amount of cereal. Bound over to the circuit court for trial. July 29 defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made July 7th in justice court, city of Charlevoix, against Martin Block, charged with selling sausage containing cereal and not stamping same. Bound over to the circuit court for trial. July 29 defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made July 7 in police court, city of Bay City, against Frank Waltman, charged with selling sausage containing an excessive amount of cereal. Defendant waived examination July 29 and was bound over to circuit court for trial. Case pending.

Complaint was made July 7 in police court, city of Bay City, against Paul Walter, charged with selling sausage containing an excessive amount of cereal. Defendant waived examination July 29 and was bound over to circuit court for trial. Case pending.

Complaint was made July 7 in police court, city of Bay City, against Ed. L. Baumgarten, charged with selling sausage containing an excessive amount of cereal. July 29 case discharged and new complaint issued.

Complaint was made July 7 in police court, city of Bay City, against Conrad A. Gunterman, charged with selling sausage containing an excessive amount of cereal. July 29 defendant waived examination and was bound over to circuit court for trial. Case pending.

Complaint was made July 7 in police court, city of Bay City, against Carl Dehn, charged with selling sausage containing an excessive amount of cereal. July 29 defendant bound over to circuit court for trial. Case pending.

Complaint was made July 7 in police court, city of Bay City, against George Zimmer, charged with selling sausage containing an excessive amount of cereal. July 29 defendant waived examination and was bound over to circuit court for trial. Case pending.

Complaint was made July 7 in police court, city of Bay City, against Charles C. Schultz, charged with selling sausage containing an excessive amount of cereal. July 29 defendant waived examination and was bound over to circuit court for trial. Case pending.

Complaint was made July 7 in police court, city of Bay City, against Stanley Wojciechowski, charged with selling sausage containing an excessive amount of cereal. July 29 defendant waived examination and was bound over to circuit court for trial. Case pending.

Complaint was made July 7 in police court, city of Bay City, against

Valentine Hadynski, charged with selling sausage containing an excessive amount of cereal. July 29 defendant waived examination and was bound over to circuit court for trial. Case pending.

Complaint was made July 7 in police court, city of Bay City, against Joseph Budzinski, charged with selling sausage containing an excessive amount of cereal. July 29 defendant waived examination and was bound over to circuit court for trial. Case pending.

Complaint was made July 8 in justice court, village of Gaylord, against Allen Schreur, charged with selling sausage containing an excessive amount of cereal. Defendant waived examination and was bound over to circuit court for trial. July 30 defendant entered a plea of guilty. Sentence suspended on payment of \$5 costs.

Complaint was made July 8 in justice court, city of Mt. Pleasant, against Mike Murphy, charged with selling skimmed milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 8 in justice court, city of Mt. Pleasant, against Frank Coughlin, charged with selling skimmed milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 8 in justice court, city of Mt. Pleasant, against James Daniels, charged with selling skimmed milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 8 in justice court, city of Mt. Pleasant, against J. Cooper, charged with selling skimmed milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 8 in justice court, city of Mt. Pleasant, against Dennis Torpey, charged with selling skimmed milk. Defendant entered a plea of guilty. Fined \$50.

Complaint was made July 8 in justice court, city of Mt. Pleasant, against Grover McLachlin, charged with selling skimmed milk. Defendant entered a plea of guilty. Fined \$35.

Complaint was made July 8 in Justice court, village of Thompsonville, against D. N. Cornell, charged with selling sausage containing an excess amount of cereal. Case pending.

Complaint was made July 8 in justice court, village of Gaylord, against Frank Noa, charged with selling adulterated lard. Case pending.

Complaint was made July 8 in justice court, village of Gaylord, against E. Carr & Son, charged with selling adulterated lard. Case pending.

Complaint was made July 10 in justice court, village of Frankfort,

against James W. Lockhart charged with selling diseased meat. Bound over to the circuit court for trial. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made July 9 in justice court, village of Frankfort, against Geo. W. Rupright, charged with selling oleomargarine without displaying sign. July 10 bound over to circuit court for trial. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made July 15 in justice court, city of Grand Haven, against Henry Bothyl, charged with selling renovated butter without stamping. July 16 defendant bound over to circuit court for trial. Case pending.

Complaint was made July 15 in police court, city of Grand Rapids, against Thomasma Brothers, charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made July 16 in police court, city of Grand Rapids, against John S. Mesorick, charged with selling sausage containing an excessive amount of cereal. July 17 bound over to superior court for trial. August 4 defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made July 16 in police court, city of Grand Rapids, against Martin Zinser, charged with selling sausage containing an excessive amount of cereal. Bound over to superior court for trial. August 4 defendant entered a plea of guilty. Case pending for sentence.

Complaint was made July 20 in justice court, city of Marquette, against Fred Bureau, charged with selling a peck of potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made July 21 in justice court, city of Marquette, against Frank La Bonte, charged with selling a peck of potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made July 21 in police court, city of Grand Rapids, against Jacob Sanford, charged with selling hamburg containing sulphites. July 24 defendant bound over to circuit court for trial. Case pending.

Complaint was made July 30 in justice court, city of Owosso, against Fred Axford, charged with selling sausage containing excessive cereal. August 27 defendant waived examination and was bound over to circuit court for trial. Case pending.

Complaint was made July 30 in justice court, city of Owosso, against Mrs. Nettie Johnson, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made July 30 in justice court, city of Owosso, against Will May, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made July 30 in justice court, city of Owosso, against Anton Greilich, charged with selling sausage containing excessive cereal. Defendant waived examination and was bound over to the circuit court. Case pending.

Complaint was made August 3 in justice court, village of Mendon, against G. A. Royer, charged with selling sausage containing excessive cereal. Defendant waived examination and was bound over to the circuit court for trial. Case pending.

Complaint was made August 4 in police court, city of Detroit, against Ignatz W. Gardula, charged with selling camphor liniment not in conformity with legal requirements. August 14 defendant bound over to recorder's court for trial. Case pending.

Complaint was made August 4 in justice court, city of Cheboygan, against Henry Barber, charged with selling sausage containing excessive cereal. August 27 defendant bound over to circuit court for trial. Case pending.

Complaint was made August 4 in justice court, city of Cheboygan, against Thomas Stevenson, charged with selling sausage containing cereal and not stamping same. Case pending.

Complaint was made August 4 in justice court, city of Cheboygan, against Curtis Fairchild, charged with the sale of adulterated milk. Case pending.

Complaint was made August 5 in justice court, city of Cheboygan, against D. J. McDonald, charged with selling lard compound without stamping. Defendant entered a plea of not guilty. Case dismissed owing to the disappearance of the material witness.

Complaint was made August 5 in justice court, city of Cheboygan, against John A. Garrow, charged with selling sausage containing excessive cereal. August 27 defendant bound over to circuit court for trial. Defendant entered a plea of not guilty. Case pending.

Complaint was made August 5 in justice court, village of Gaylord, against C. L. Merry, charged with shipping unwashed ice cream cans. Case pending.

Complaint was made August 7 in justice court, city of Kalamazoo, against Wm. Murray, charged with selling insanitary cream. Defendant entered a plea of guilty. Fined \$22.50 and costs.

Complaint was made August 7 in justice court, city of Kalamazoo,

against Eli Case, charged with selling insanitary cream. Defendant entered a plea of guilty. Fined \$22.50 and costs.

Complaint was made August 8 in police court, city of Muskegon, against Michael Hogan, charged with having an insanitary barn. August 20 defendant entered a plea of not guilty. Case pending.

Complaint was made August 8 in justice court, city of St. Ignace, against Mrs. M. O. Seward, charged with shipping unwashed ice cream cans. August 10 defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made August 8 in justice court, city of St. Ignace, against Oliver Massey, charged with shipping unwashed ice cream cans. August 13 defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made August 10 in police court, city of Muskegon, against Fred Peterson, charged with having an insanitary barn. Defendant entered a plea of guilty and was fined \$15.

Complaint was made August 10 in police court, city of Muskegon, against McDonald Reside, charged with having an insanitary barn. Defendant entered a plea of guilty. Fined \$15.

Complaint was made August 10 in police court, city of Muskegon, against William and Howard Bletch, charged with having an insanitary barn. Defendants entered a plea of guilty. Fined \$15.

Complaint was made August 10 in police court, city of Muskegon, against F. H. Sanford, charged with having an insanitary barn. Defendant entered a plea of guilty. Fined \$15.

Complaint was made August 14 in justice court, city of Manistique, against John James, charged with selling one bushel of potatoes short weight. August 20 defendant convicted in justice court and fined \$20. Case appealed to Circuit court.

Complaint was made August 14 in justice court, city of Manistique, against Oscar Olson, charged with selling one peck potatoes short weight. Defendant entered a plea of guilty. Fined \$20.

Complaint was made August 14 in justice court, city of Iron Mountain, against Alfonso Leonardelli, charged with shipping unwashed ice cream cans. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made August 15 in justice court, city of Battle Creek, against C. D. Wilbur, charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made August 24 in justice court, city of Battle Creek,

against John M. Lampky, charged with selling insanitary cream. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made August 24 in justice court, city of Petoskey, against Roy H. Comstock, charged with selling a peck of potatoes short weight. Defendant entered a plea of not guilty. Case pending.

Complaint was made August 24 in justice court, city of Petoskey, against Wm. U. Faunce, charged with selling one peck of potatoes short weight. Defendant entered a plea of guilty. Fined \$20.

Complaint was made August 24 in justice court, city of Petoskey, against Mrs. Cornelius E. Sullivan, charged with selling a peck of potatoes short weight. Defendant entered a plea of guilty. Fined \$20.

Complaint was made August 26 in justice court, city of Flint, against Wm. Yaster, charged with the adulteration of milk. August 28 defendant entered a plea of guilty. Case pending.

Complaint was made August 26 in police court, city of Detroit, against Wm. A. Lewis, charged with selling process butter for creamery butter. Case pending.

Complaint was made August 26 in police court, city of Detroit, against J. B. Saels charged with selling colored oleomargarine. Case pending.

Complaint was made August 26 in police court, city of Detroit, against Edward Roulo, charged with selling colored oleomargarine. Case pending.

Complaint was made August 26 in justice court, city of Battle Creek, against Fred Smith charged with selling insanitary milk. Defendant entered a plea of guilty. Sentence suspended.

Complaint was made August 26 in justice court, city of Battle Creek, against David Wells, charged with selling insanitary milk. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made August 27 in police court, city of Muskegon, against Henry Rosema, charged with selling unwholesome veal. August 31 defendant entered a plea of not guilty. Case pending.

Complaint was made August 27 in justice court, city of Sault Ste. Marie, against Jos. W. Palmer of Brimley, charged with shipping unwashed ice cream cans. August 27 defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made August 28 in justice court, city of St. Ignace, against Patrick Gallagher, charged with selling sausage containing cereal without stamping. Case pending.

Complaint was made August 28 in justice court, city of St. Ignace, against Martin Fair, charged with the sale of sausage containing cereal without stamping. Case pending.

Complaint was made August 28 in justice court, village of Mackinac against Robert Summers charged with selling adulterated milk. August 28 defendant entered a plea of guilty. Fined \$5 and costs.

SEPTEMBER 1, 1914.

Hon. James W. Helme, Dairy & Food Commissioner, Lansing, Mich.:

Dear Sir:—I herewith beg to report on the samples analyzed in the Department laboratory during the months of July and August.

A total of 153 samples were analyzed, 78 of which were found to be adulterated, misbranded or formed the part of an illegal sale, while 75 of them were found to comply with the statute. A brief description of each sample that was found adulterated, misbranded or illegal will be found in the appended report.

Yours truly,
F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Butter.....	9	3	6
Buttermilk.....	1	1	0
Candy.....	2	1	1
Canned Goods.....	3	2	1
Eggs.....	12	6	6
Evaporated Milk.....	3	0	3
Flavoring preparations.....	5	5	0
Hamburg steak.....	8	4	4
Honey.....	1	1	0
Ice Cream.....	8	7	1
Jellies, Jams, etc.....	1	0	1
Lard and lard compounds.....	5	1	4
Maple sugar.....	1	1	0
Maple syrup.....	1	0	1
Milk.....	17	7	10
Milk cans.....	2	0	2
Mustard.....	1	1	0
Olives.....	1	0	1
Potatoes.....	1	0	1
Sausage.....	66	30	36
Soft drinks.....	5	5	0
Total.....	153	75	78

ANALYSES OF SAMPLES.

BUTTER.

No. 30854, V-99. Sample of butter manufactured by the Almont Creamery Co., Almont, and procured from Wm. Elevier, 161 Brainard St., Detroit. Label "Guaranteed Strictly Fresh Belle Isle Creamery Butter." Packing stock unfit to eat. Not strictly fresh creamery butter.

No. 30855, V-100. Sample of butter manufactured and sold by D. O. Wiley, Griswold-Woodbridge, Detroit. Labeled "Fancy Creamery Butter." This butter is churned from purest cream and in this package will retain its purity and sweetness." Low grade table butter. Not fancy creamery.

No. 30615, F-180. Sample of butter procured from the Bothyl Grocer Co., Grand Haven. Sample is Renovated butter. Package not stamped.

No. 30747, U-5. Sample of butter procured from Edward Roulo, 1750 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

No. 30871, U-13. Sample of butter procured from W. H. Berk, 304 Linwood Ave., Detroit. Sample is renovated butter.

No. 30878, M-13. Sample of butter procured from J. B. Saels, 532 Dix Ave., Detroit. Sample is oleomargarine artificially colored.

CANDY.

No. 30851, P-1214. Sample of candy (Fruit Jellies) manufactured by A. G. Morse, Chicago, Ill., and procured from S. C. Kinsel, Detroit. No fruit present. Sample consists of assorted gum drops. Misbranded.

CANNED GOODS.

No. 30708, G-1114. Sample of peas handled by E. M. Lieblin, Hancock, as jobber and procured from John B. Seratti, Baraga. Manufacturer's name and address not stated. Misbranded.

EGGS.

No. 30713, V-85. Sample of canned eggs manufactured by S. Kady, Chicago, Ill., and procured from Chris Schmidt, Detroit. Consist wholly of rotten animal substance.

No. 30825, V-89. Sample of frozen eggs procured from Chris Schmidt, Eastern Market, Detroit. Sample consists wholly or in part of decomposed, putrid animal substance.

No. 30830, V-94. Sample of frozen eggs procured from Uller & Powers, 415 Russell St., Detroit. Odor rotten. Sample composed wholly or in part of decomposed, putrid animal substance.

No. 30832, V-96. Sample of frozen eggs procured from Uller & Powers, 415 Russell St., Detroit. Sample consists wholly or in part of decomposed, putrid animal substance.

No. 30833, V-97. Sample of frozen eggs procured from Uller & Powers, 415 Russell St., Detroit. Consists wholly or in part of decomposed, putrid animal substance.

No. 30852, M-7. Sample of frozen eggs procured from Chris Schmidt, Detroit. Sample consists wholly or in part of putrid, decomposed ani-

EVAPORATED MILK.

No. 30675, G-1117. Sample of evaporated milk manufactured by the Delavan Condensed Milk Co., Chicago, Ill. Misbranded for the reason that the label does not contain directions for diluting.

No. 30709, G-1115. Sample of Evaporated milk manufactured by the Hires Condensed Milk Co., Philadelphia, Pa. Misbranded. Directions for diluting are not in conformity with the statute.

No. 30730, E-103. Sample of Evaporated milk manufactured by the Sheboygan Evaporated Milk Co., Sheboygan, Wis. Directions for diluting not in conformity with the wording of the statute.

HAMBURG STEAK.

No. 30621, F-191. Sample of Hamburg steak procured from the Grand Rapids Sanitary Market, Grand Rapids. Sample contains added sulphurous acid or salts thereof,

No. 30627, F-182. Sample of Hamburg Steak procured from J. Sanford, Grand Rapids. Sample contains added sulphurous acid or salts thereof.

No. 30633, F-188. Sample of Hamburg Steak procured from M. Williams, Grand Rapids. Sample contains added sulphurous acid or salts thereof.

No. 30748, M-1. Sample of Hamburg Steak procured from Charles Whitmarsh, 1453 Chene St., Detroit. Sample contains added sulphurous acid or salts thereof.

ICE CREAM.

No. 30672, G-1116. Sample of ice cream manufactured by Harper & Thomas, Calumet, and sold by Provis Perry, Calumet. Butter fat 4.7%. Below standard in butter fat.

JELLIES, JAMS, ETC.

No. 30770, V-86. Sample of Cherry Preserves manufactured by the Hay Preserving Co., 29 Woodward Ave., Detroit. Net weight not stated.

LARD AND LARD COMPOUNDS.

No. 30562, I-332. Sample of lard manufactured and sold by Frank Noa, Gaylord. Sample contains cottonseed oil and is not stamped.

No. 30563, I-333. Sample of lard manufactured and sold by E. Carr & Son, Gaylord. Sample contains beef fat. Not properly labeled as a lard compound.

No. 30644, F-196. Sample of lard procured from J. Pollie, Grand Rapids. Sample is lard compound.

No. 30656, B-115. Sample of lard compound procured from L. S. Walter, Fife Lake. Package not stamped.

MAPLE SYRUP.

No. 30712, F-199. Sample of maple syrup manufactured and sold by J. Hostetter, Elmdale. Sample is pure maple syrup but contains an excessive amount of moisture.

MILK.

No. 30687, I-348. Sample of milk procured from Curtis E. Fairchilds, Cheboygan. Below standard in butter fat. A part of the cream has been removed.

No. 30724, J-42. Sample of milk procured from Wm. Yaster, Clio. Below standard in specific gravity and total solids. Sample contains about 22% added water.

No. 30819, P-1308. Sample of milk procured from W. D. Minor, Battle Creek. Sample contains an excessive amount of visible dirt.

No. 30822, P-1311. Sample of milk procured from L. W. Miller, Battle Creek. Sample low in total solids. Contains about 5% added water.

No. 30823, P-1312. Sample of milk procured from C. D. Wilbur, Battle Creek. Below standard in butter fat and total solids. A part of the cream has been removed. Contains an excessive amount of dirt.

No. 30824, P-1313. Sample of milk procured from C. D. Wilbur, Battle Creek. Contains an excessive amount of dirt.

No. 30841, I-353. Sample of milk procured from Robert Sommer, Mackinac City. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30858, U-6. Sample of milk procured from Geo. Ansur, 18 Manchester Ave., Highland Park. Below standard in total solids.

No. 30861, U-9. Sample of milk procured from Chas. Diamantis, 28 Manchester Ave., Highland Park. Below standard in total solids.

No. 30863, U-11. Sample of milk procured from the London Lunch, 36 Manchester Ave., Highland Park. Below standard in butter fat. Butter fat 2.7%.

MILK CANS.

No. 30783, P-1300. One open seam milk can procured from Wm. Murray, Climax. Open seam cans are not permissible for the storage or transportation of milk.

No. 30784, P-1301. Open seam milk can procured from Ali Case, Climax. Open seam cans are not permissible for the storage or transportation of milk.

OLIVES.

No. 30749, D-210. Sample of olives manufactured by R. C. Chances Sons, Philadelphia, Pa. Labelled "Capacity 5 fl. oz." Misbranded. Label should read "Net Contents" instead of "Capacity."

POTATOES.

No. 30774, B-127. One peck of potatoes procured from Herman Bird, Jr., Mackinac Island. Amount of potatoes present $12\frac{3}{4}$ lbs. Quantity less than represented.

SAUSAGE.

No. 30599, I-339. Sample of bologna sausage manufactured and sold by C. Gwinner, 309 Trail St., Jackson. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 30601, I-341. Sample of bologna sausage manufactured and sold by John Schramm, Jackson. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 30620, F-190. Sample of bologna procured from the Grand Rapids Sanitary Market, Grand Rapids. Cereal present. Contains an excessive amount of cereal.

No. 30622, F-192. Sample of sausage procured from M. Zinser & Co., Grand Rapids. Cereal present. Package or product not marked or stamped to indicate cereal.

No. 30626, F-181. Sample of sausage procured from J. Sanford, Grand Rapids. Sample contains sulphurous acid or salts thereof.

No. 30628, F-183. Sample of sausage manufactured by Thomasma Bros., Grand Rapids, and procured from C. D. Cooper, Grand Rapids. Cereal 3.16%. Package or product not marked or stamped to indicate presence of cereal. Contains an excessive amount of cereal.

No. 30636, I-342. Sample of bologna sausage manufactured and sold by McDonald & Beckett, Brown City. Cereal 4.0%. Contains an excessive amount of cereal.

No. 30646, I-343. Sample of bologna sausage manufactured and sold by Abraham Sly & Co., Marlette. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 30659, B-116. Sample of sausage manufactured and sold by Peter Nayler, Fife Lake. Cereal 3.2%. Contains an excessive amount of cereal.

No. 30677, B-118. Sample of sausage manufactured and sold by Spinner & Bachi, Elk Rapids. Cereal present. Package or contents not marked or stamped to show presence of cereal.

No. 30685, I-346. Sample of bologna sausage manufactured and sold by Henry Barber, Cheboygan. Cereal 3.73%. Sample marked "Sausage with Cereal." Sample contains an excessive amount of cereal.

No. 30686, I-347. Sample of bologna manufactured and sold by Thomas Stevenson, Cheboygan. Cereal present. Package or contents not marked to indicate presence of cereal.

No. 30688, I-349. Sample of frankfurts procured from Robert Meggitt & Son, Cheboygan. Cereal present. Package or contents not marked or stamped to indicate presence of cereal.

No. 30707, F-198. Sample of sausage procured from Bolt & Casmier, Grand Haven. Cereal 3.99%. Package stamped "Sausage, water and cereal." Contains an excessive amount of cereal.

No. 30714, F-200. Sample of bologna procured from the Grand Rapids Sanitary Market, Grand Rapids. Cereal 4.78%. Package stamped "Sausage with cereal." Contains an excessive amount of cereal.

No. 30715, F-201. Sample of bologna procured from the Grand Rapids Sanitary Market, Grand Rapids. Cereal 3.45%. Package stamped "Sausage with Cereal." Sample contains an excessive amount of cereal.

No. 30727, P-1299. Sample of bologna sausage manufactured and sold by G. A. Boyer, Mendon. Cereal 3.78%. Package or contents not mark-

ed or stamped to indicate presence of cereal. Contains an excessive amount of cereal.

No. 30796, B-128. Sample of sausage manufactured and sold by the Alpena Meat Co., Alpena. Cereal present. Sample not stamped.

No. 30797, B-129. Sample of sausage manufactured and sold by the Marine Meat Market, Alpena. Cereal present. Package not stamped. Sausage not stamped.

No. 30798, B-130. Sample of sausage manufactured and sold by Chris. Nelson, Alpena. Cereal 5.19%. Contains excess cereal.

No. 30801, B-133. Sample of sausage manufactured and sold by W. J. Gabrysiak, Alpena. Cereal present. Package not stamped.

No. 30802, B-134. Sample of sausage manufactured and sold by John B. Markowski, Alpena. Cereal 4.49%. Contains excess cereal.

No. 30803, B-135. Sample of sausage manufactured and sold by L. T. St. Onge, Alpena. Cereal 3.71%. Sample contains excess cereal.

No. 30805, B-137. Sample of sausage manufactured and sold by M. S. Shubert, Alpena. Cereal present. Not stamped.

No. 30807, B-139. Sample of sausage manufactured and sold by J. L. St. John, Alpena. Cereal 5.60%. Contains excess cereal.

No. 30810, B-142. Sample of sausage manufactured and sold by Dan Duchene, Alpena. Cereal 3.15%. Contains excess cereal.

No. 30811, B-143. Sample of sausage manufactured and sold by Dan Duchene, Alpena. Cereal 5.19%. Contains excess cereal.

No. 30835, B-144. Sample of sausage manufactured and sold by Albert Kruger, Alpena. Cereal present. Package or product not marked to indicate the presence of cereal.

No. 30836, B-145. Sample of sausage manufactured and sold by Ed. F. Kramm, Alpena. Cereal 4.88%. Contains excess cereal.

No. 30837, B-146. Sample of sausage manufactured and sold by J. Walle & Son, Alpena. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 30838, I-351. Sample of pork sausage procured from Fair Bros., St. Ignace. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 30839, I-352. Sample of pork sausage procured from Patrick E. Gallagher, St. Ignace. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 30846, M-5. Sample of sausage manufactured and sold by Chas. Frutig, 3107 Jefferson St., Detroit. Cereal 4.59%. Contains an excessive amount of cereal.

No. 30869, M-9. Sample of sausage manufactured and sold by Jos. Kempa, 2452 Jefferson Ave., Detroit. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 30870, M-10. Sample of sausage procured from Jos. Kempa, 2452 Jefferson Ave. W., Detroit. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 30876, M-11. Sample of sausage manufactured and sold by John A. Peters, 620 Dix Ave., Detroit. Cereal 5.48%. Contains an excessive amount of cereal.

DRUG INSPECTIONS.

The following places were visited by the drug inspectors of the Department during the months of July and August, 1914:

Alden, Allegan, Almont, Alto, Ann Arbor, Armada, Augusta, Battle Creek, Bellevue, Benton Harbor, Beulah, Big Rapids, Birmingham, Blissfield, Centerville, Central Lake, Charlevoix, Charlotte, Constantine, Coopersville, Coral, Deerfield, Detroit, Dowagiac, Edmore, Frankfort, Grand Haven, Grand Ledge, Grand Rapids, Greenville, Harbor Springs, Hart, Hartford, Hastings, Howard City, Ionia, Kalamazoo, Lakeview, Lawrence, Lowell, Mackinac Island, Manistique Manton, Milan, Monroe, Montague, Morenci, Morley, Nashville, New Era, Orion, Oxford, Paw Paw, Pellston, Pentwater, Petoskey, Plymouth, Pontiac, Rapid City, Ravenna, Richmond, Rochester, Romeo, Royal Oak, St. Ignace, Saranac, Saugatuck, Shelby, South Haven, South Lyon, Spring Lake, Thompsonville, Three Rivers, Trufant, Watervliet, Whitehall, Whitmore Lake.

September 1, 1914.

Hon. James W. Helme, Dairy and Food Commissioner, Lansing, Mich.:

Dear Sir:—During the past two months sixty-six official samples were taken up by the Drug inspectors and analyzed by this Department. Of this number twenty-two were condemned as not being in conformity with the requirements of the drug law. Additional information in regard to these products can be obtained from the tabulated report.

Yours truly,

A. R. TODD,
Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Alcohol (ethyl).....	1	0	1
Camphor liniment.....	6	5	1
Cream of tartar.....	1	1	0
Essence pepsin.....	2	0	2
Fowlers solution.....	2	0	2
Ginger (fluid ext.).....	1	1	0
Headache powders.....	2	2	0
Lead subacetate.....	1	1	0
Proprietary medicines.....	1	1	0
Seidlitz powders.....	3	2	1
Soap liniment.....	4	3	1
Spirits camphor.....	2	2	0
Spirits peppermint.....	11	9	2
Sulphur.....	1	1	0
Syrup iron iodide.....	1	0	1
Tincture iodine.....	23	12	11
Tincture opium.....	2	2	0
Vanilla.....	1	1	0
Witch-hazel.....	1	1	0
Total.....	66	44	22

ANALYSES OF SAMPLES.

ALCOHOL.

No. 30293, Q-404. Sample of Ethyl Alcohol sold by C. H. Ritter and Company of Detroit and procured from A. D. Burnham, 807 McGraw, Detroit. Alcohol by wt. 66.7%. Alcohol by vol. 73.93%. Low in alcohol.

CAMPHOR LINIMENT.

No. 30735, Z-417. Sample of camphor liniment manufactured and sold by J. L. Congdon & Co., Pentwater. Camphor 14.94%. Low in camphor.

ESSENCE PEPSIN.

No. 30138, Q-391. Sample of essence pepsin manufactured and sold by Goldman Bros., 418 Hastings St., Detroit. Not an N. F. preparation. Low in digestive power.

No. 30641, Z-401. Sample of essence pepsin procured from C. H. Jongejan, Grand Rapids. Not an N. F. preparation. Low in digestive power.

FOWLERS SOLUTION.

No. 30609, Z-391. Sample of Fowlers Solution manufactured and sold by S. E. Wait & Son, Traverse City. Arsenic trioxide .8%. Low in arsenic trioxide.

No. 30737, Z-419. Sample of Fowlers Solution manufactured and sold by R. Lewis, Dowagiac. Arsenic Trioxide .815%. Low in Arsenic trioxide.

SEIDLITZ POWDERS.

No. 30840, Z-430. Sample of seidlitz powders manufactured and sold by W. S. Winegar, Lowell. Low in sodium bicarbonate, potassium and sodium tartrate.

SOAP LINIMENT.

No. 30721, Z-413. Sample of Soap liniment procured from Jay L. Bullock, Three Rivers. Low in camphor.

SPIRITS PEPPERMINT.

No. 30589, Q-425. Sample of spirits peppermint manufactured and sold by VanLoon & Freytag, 837 Dix, Detroit. Oil Peppermint 8.4%. Low in oil of peppermint.

No. 30752, Q-427. Sample of spirits peppermint manufactured and sold by E. C. Williams, North Adams. Oil of peppermint 3.5%. Low in oil of peppermint.

SYRUP IODIDE OF IRON.

No. 30611, Z-393. Sample of iodide of iron manufactured and sold by Johnson Drug Co., Traverse City. Ferrous Iodide 4.0%. Low in ferrous iodide.

TINCTURE IODINE.

No. 30693, Z-403. Sample of Tincture iodine manufactured and sold by L. H. Morganthaler, Ionia. Not U. S. P. Low in iodine and potassium iodide. Iodine 6.14 gms. Potassium Iodide 3.57 gms. per 100 cc.

No. 30698, Z-409. Sample of tincture iodine manufactured and sold by Eckel Drug Co., Petoskey. Iodine 6.14 gms., potassium iodide 3.1 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30738, Z-420. Sample of tincture iodine manufactured and sold by James H. Bryan, Charlotte. Iodine 6.6 gms., potassium iodide 3.443 gms. per 100 cc. Low in potassium iodide.

No. 30753, Q-428. Sample of tincture iodine manufactured and sold by E. C. Williams, North Adams. Iodine 4.315 gms., potassium iodide none. Low in iodine and contains no potassium iodide.

No. 30758, Z-422. Sample of tincture iodine manufactured and sold by A. E. Mulholland, Hastings. Iodine 5.889 gms., potassium iodide 4.713 gms. per 100 cc. Low in iodine.

No. 30788, Z-427. Sample tincture iodine manufactured and sold by Percy H. Lewis, Watervliet. Iodine 2.056 gms., potassium iodide 0.643 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30792, Z-432. Sample tincture iodine manufactured and sold by V. J. Dickerson, Lakeview. Iodine 4.82 gms., potassium iodide 4.112 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30844, Q-430. Sample tincture iodine manufactured and sold by James Manning, Deerfield. Iodine 12.03 gms., potassium iodide 2.173 gms. per 10 cc. High in iodine and low in potassium iodide.

No. 30873, Z-436. Sample tincture iodine manufactured and sold by E. L. LaRocque, St. Ignace. Iodine 5.12 gms., potassium iodide 3.1 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30889, Q-434. Sample tincture iodine manufactured and sold by R. G. Mitter, 1167 Warren W., Detroit. Iodine 3.86 gms., potassium iodide 1.366 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30892, Q-437. Sample tincture iodine manufactured and sold by Beach & Cloonan, 30 Saginaw St., Pontiac. Iodine 4.87 gms., potassium iodide 3.000 gms. per 100 cc. Low in iodine and potassium iodide.

To the Sealers of Weights and Measures:

As the two Drug Inspectors of the Dairy and Food Department cannot cover all of Michigan in the matter of testing prescription weights and drug graduates, I would strongly urge you to get the following equipment as it will be needed:

One set of metric weights, 50 grams to 5 milligrams.

One 9 gram and one 18 gram weight.

One set of Apothecaries weights consisting of 12, 6, 2, 2; 1 ounce—4; 2; 1 drachms—2; 1 scruples—10, 5, 2, 1, 5/10, 2/10, 1/10 grains. This set can be used for the testing of Troy weights.

Sealer's Portable Pocket Balance, S-7384 without weights, manufactured by Henry Troemner, Philadelphia, is recommended.

Set of graduates consisting of the following sizes: 60 M, 120 M, 1/2 oz., 1 oz., 2 oz., 4 oz., 8 oz., 16 oz. The graduates from 1 oz. up are to be cylindrical and not cone shaped.

Set of graduates consisting of the following sizes: 60 M.

The above should be ordered sent direct to this department for sealing.

The following tolerances will be adopted.

Weight, ounces troy.	Tolerances, grains.	Weight, scruples.	Tolerances, grains.
12	4.0	3	0.3
10	4.0	2	.3
8	3.0	1	.15
5	3.0	..	....
4	2.0	..	....
3	2.0	..	....
2	2.0	..	....
1	1.0	..	....
Weight, drachms.	Tolerances, grains.	Weight, grains.	Tolerances, grains.
8	1.0	20	.15
6	1.0	15	.15
4	.7	10	.10
3	.6	5	.08
2	.5	1	.03
1	.3	..	...

These values are tentative and will probably be slightly modified.

Weight, grams.	Tolerances, grams.	Weight, grams.	Tolerances, grams.
50	.05	.5	.001
20	.02	.2	.0005
10	.01	.1	.0002
5	.005	.05	.0001
2	.002	.02	.0001
1	.002	...	....

Graduates.		Graduates.	
1 quart.....	1½ dr.	1 liter.....	100 Minims.
1 pint.....	1 dr.	½ liter.....	60 Minims.
½ pint.....	30 Minims.	¼ liter.....	30 Minims.
¼ pint.....	15 M.	100 cc.....	12 Minims.
2 Fl. oz.....	9 M.	50 cc.....	6 Minims.
1 Fl. oz.....	6 M.	25 cc.....	4 Minims.
½ Fl. oz.....	3 M.	10 cc.....	2 Minims.
1 drachm.....	1 M.	5 cc.....	1 Minim.

Very truly,
 BURR B. LINCOLN,
 Deputy Dairy and Food Commissioner,
 In Charge of Weights and Measures.

To the Sealers of Weights and Measures:

I have been investigating the range boiler proposition and find that they are the boilers used in the house. There is a great deal of fraud practiced in representing the size of these boilers. The boiler that seems to be used most is of thirty gallon capacity. A number of dealers have boilers of smaller capacity which they represent as being thirty gallon boilers.

This is a clear violation of the law, and I wish the Sealers would watch the sale of these boilers and see that correct capacity is given. You will find them on sale at the plumbers, and plumber's supply houses.

B. B. LINCOLN,
Deputy Dairy and Food Commissioner,
In Charge of Weights and Measures.

To the Creameries:

The "Net Weight Package Law" became effective August 14, 1913. This law provides that the Net Weight shall be stamped on the outside of each package of food. There is also a provision exempting package goods which were in the hands of wholesalers and retailers on January 1, 1914, but this did not apply to package goods put up after January 1st.

For instance, butter wrapped in cartons is in "package form," and the law applies to it; but we find a large number of butter-makers are not complying with the law. This is to warn you to have the Net Weight stamped on your packages, as violators of this law will be vigorously prosecuted.

Yours truly,
B. B. LINCOLN,
Deputy Dairy and Food Commissioner,
In Charge of Weights and Measures.

To the Plumbers and Furnishers of Plumbing Supplies:

This Department has been investigating the size of range boilers and find that the size of a large number of these boilers is misrepresented. This is clearly a violation of the Weights and Measures Law of this state, and any plumber or person selling these boilers is liable to prosecution.

This letter is sent to you as a warning that the Dairy and Food Department will vigorously prosecute any plumber, furnisher of plumber's supplies, or dealer in range boilers, who sells a range boiler and represents the size as being of greater capacity than it really is.

B. B. LINCOLN,
Deputy Dairy and Food Commissioner,
In Charge of Weights and Measures.

SCALES EXAMINED DURING THE MONTHS OF JULY AND AUGUST, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
George Graham	Athens			2
Farmers Mercantile Co	Buckley			2
C. L. Merithew	Buckley			2
J. I. Purdy & Co.	Buckley		1	2
W. W. Smith & Sons	Buckley			1
Baer Bros.	Dollar Bay		1	
Matt Jurmu	Dollar Bay	1	1	
John Marshall	Dollar Bay		1	
A. M. Schulte	Dollar Bay	3	1	
J. C. Foster	Engadine		1	
Julius Larson	Engadine		2	
A. DeBoer	Grand Rapids		1	
T. DeBoer	Grand Rapids		1	
Peter Dekker	Grand Rapids		1	
Joe De Pree	Grand Rapids		1	
Peter DeVries	Grand Rapids		1	
Martin Dreece	Grand Rapids		1	
Leit Dorge	Grand Rapids		1	
Anton Gagi	Grand Rapids		1	
D. Gagi	Grand Rapids		1	
D. Goldberg	Grand Rapids		1	
B. Kinkema	Grand Rapids		1	
J. Kopma	Grand Rapids		1	
G. Lindquist	Grand Rapids		1	
J. Lindski	Grand Rapids		1	
A. Ludwig	Grand Rapids		1	
J. Ludwig	Grand Rapids		1	
B. Omant	Grand Rapids		1	
F. Petosi	Grand Rapids		1	
T. Senpol	Grand Rapids		1	
A. D. Smith	Grand Rapids		1	
John Taylor	Grand Rapids		1	
B. Thomasma	Grand Rapids		1	
B. Turpstra	Grand Rapids		1	
A. VonDam	Grand Rapids		1	
H. VonDenBerg	Grand Rapids		1	
M. Veena	Grand Rapids		1	
E. Veenstra	Grand Rapids		1	
Frank Koepele	Hannah		1	
C. W. Atkin	Houghton	1		
Wm. Gamble	Houghton		1	
Houghton Pure Food	Houghton	4	2	
L. Krellwitz	Houghton	2	1	
W. S. McVicker	Houghton	1		
Peoples Meat Market	Houghton	3		
Geo. Grammes	Hubbell	3		
Edward H. Hebert	Hubbell		1	
Jno. B. Hodges	Hubbell	3		
Alf. A. Krueger	Hubbell	3		
Henry Opal	Hubbell	1		
N. Reding	Hubbell	1		
C. A. Baker	Lake Odessa		1	
A. Pond	Mackinac Island		1	
Consolidated Lumber Co	Manistique		1	
John C. Folk	Manistique		1	
Wm. L. Middlebrook	Manistique		1	
Frank Peterson & Co	Manistique		1	
C. J. Anderson	Marquette		1	
Anderson & Mellin	Marquette		1	
E. Bertrand	Marquette	1		
E. E. Bracher	Marquette	3	1	
F. Bureau & Son	Marquette	3	1	
A. Cameron	Marquette	1		
Jno. Carlson	Marquette	1	1	
Delf Grocery	Marquette	3		

SCALES EXAMINED DURING THE MONTHS OF JULY AND AUGUST, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
Chas. Dorais	Marquette		2	
C. G. Eck	Marquette	1	2	
Fassbender & Pierce	Marquette		2	
A. Fein	Marquette		1	
Gannon Grocery Co	Marquette	2		
Frank La Bonte	Marquette	4		1
Wm. Lewinstein	Marquette		2	
Lewinstein & Wasserman	Marquette	1	1	
Jno. Q. Lewis & Co.	Marquette	2	2	
Russell Morin	Marquette	1		
Murray Grocery	Marquette	8		
W. J. O'Donnell	Marquette	1		
Reany & McLean	Marquette	1		
Rydholm Bros	Marquette	2		
Jno. Siegel	Marquette	4		
Jacob Smith	Marquette	1		
Mike Wallin	Marquette	1	1	
Wm. Williams	Marquette		2	
Ford & Williamson	Marshall			1
C. Snearley	Marshall			1
Mason Elevator Co.	Mason		1	
R. B. Rayner	Mason	2		
J. P. Smith	Mason		1	
S. C. Wagner	Onaway		1	
Chicago Market	St. Ignace		1	
Geo. Furstch	Wexford			1

MEASURES EXAMINED DURING THE MONTHS OF JULY AND AUGUST, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
Wm. A. Anderson.....	Angels.....		2	
Lewis & Ulrich.....	Athens.....		36	
L. J. Crisp.....	Bates.....		1	
A. Z. Green.....	Bates.....		2	
Batchelor & Brown.....	Belding.....		5	
Farmers Mercantile Co.....	Buckley.....		6	
C. L. Merithew.....	Buckley.....		3	
W. W. Smith & Sons.....	Buckley.....		10	
H. P. Hossack.....	Cedarville.....		1	
E. J. Forabee.....	Conway.....		6	
James Long.....	Conway.....		1	
Ira Barant.....	Detroit.....		5	
Sam Goodman.....	Detroit.....		5	
Jacob Laftin.....	Detroit.....		5	
Lewis Laftin.....	Detroit.....		5	
C. F. Smith.....	Detroit.....		5	
A. F. Webber.....	Detroit.....		5	
Jake Wengell.....	Detroit.....		5	
Baes Bros.....	Dollar Bay.....	1		
Matt Jurmi.....	Dollar Bay.....		1	1
A. M. Schulte & Co.....	Dollar Bay.....	5		
H. Alpern.....	Elk Rapids.....		8	
D. M. Clark.....	Elk Rapids.....		7	
A. Goldfarb.....	Elk Rapids.....		15	
L. Hoffman.....	Elk Rapids.....		3	
T. J. Hogan.....	Elk Rapids.....		3	
Towers & Cole Bros.....	Elk Rapids.....		6	
C. W. Bretz.....	Engadine.....		2	
Freeman Lumber Co.....	Engadine.....		17	
Segal Dept. Store.....	Harbor Springs.....		14	
A. N. Smith & Son.....	Harbor Springs.....		3	
J. T. Starr & Co.....	Harbor Springs.....		2	
A. G. Wellbrook.....	Harbor Springs.....		4	
Jos. Warnock.....	Harbor Springs.....		23	
Michael Fenlon.....	Hessel.....		8	
Fenlon Bros.....	Hessel.....		14	
Peoples Meat Market.....	Houghton.....	1		
Henry Opal.....	Hubbell.....	2		
N. Reding.....	Hubbell.....	2		
Kaleva Mercantile Co.....	Kaleva.....		7	
Louis Morris.....	Kingsley.....		3	
O. A. Lappo.....	Lake Odessa.....		3	
W. H. McCartney.....	Lake Odessa.....		2	
J. E. Peacock.....	Lake Odessa.....		3	
Jay S. Schmidt.....	Lake Odessa.....		1	
Fred Urtell.....	Lake Odessa.....		1	
B. Barster.....	Mackinac Island.....		7	
J. W. Davis & Sons.....	Mackinac Island.....		15	
Doud Mercantile Co.....	Mackinac Island.....		5	
D. Murray.....	Mackinac Island.....		2	
Geo. Truscott.....	Mackinac Island.....		4	
Blumrosen & Co.....	Manistique.....		35	
John O. Folk.....	Manistique.....		2	
W. L. Middlebrook.....	Manistique.....		7	
Moses Winkelman.....	Manistique.....		16	
Deif's Grocery.....	Marquette.....	7		
C. G. Eck.....	Marquette.....	1		
Frank LaBonte.....	Marquette.....	12		
Russell Morin.....	Marquette.....	4		
Murray Grocery.....	Marquette.....	5		
John Siegel.....	Marquette.....	3		
Jacob Smith.....	Marquette.....	4		
P. D. Lile.....	Oden.....		3	
Volney Powell.....	Oden.....		3	
J. Barnett.....	Onaway.....		12	

MEASURES EXAMINED DURING THE MONTHS OF JULY AND AUGUST, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
Jacob Berlin.....	Onaway.....		1	
A. Dosey.....	Onaway.....		2	
Levandoski & McEvoy.....	Onaway.....		2	
J. L. Righ.....	Onaway.....		2	
A. E. Stark.....	Onaway.....		1	
Devine & Sage.....	Pellston.....		3	
Jackson & Tilden.....	Pellston.....		26	
F. E. Leonhard.....	Pellston.....		3	
Tom Obloy.....	Pellston.....		3	
Pellston Mercantile Co.....	Pellston.....		8	
W. H. Iden.....	Petoskey.....		2	
R. Ingalls.....	Petoskey.....		2	
Martin & Home.....	Petoskey.....		3	
A. B. Thompson.....	Petoskey.....		1	
S. A. Williams.....	Petoskey.....		3	
L. E. Bahle & Son.....	Suttons Bay.....		8	
L. R. Sogge.....	Suttons Bay.....		4	
E. M. Crannell.....	Tower.....		3	
H. A. Feahr.....	Tower.....		6	
P. M. Furlong.....	Trout Lake.....		5	
C. W. Logan.....	Trout Lake.....		4	
G. M. Smith & Co.....	Trout Lake.....		5	
C. Bear.....	Walloon Lake.....		5	
A. J. Crago.....	Walloon Lake.....		5	
W. H. Ransom.....	Walloon Lake.....		5	
D. W. Connine & Son.....	Wexford.....		6	
Geo. Furstch.....	Wexford.....		7	

WEIGHTS EXAMINED DURING THE MONTHS OF JULY AND AUGUST, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
A. M. Schulte & Co.	Dollar Bay	5		
Houghton Pure Food Co.	Houghton	16		
Geo. Grammes	Hubbell	8		
John B. Hodges	Hubbell	8		
Alf. A. Krueger	Hubbell	8		
Henry Opal	Hubbell	5		
N. Reding	Hubbell	6		
E. E. Bracher	Marquette	6		
Jno. Carlson	Marquette	5		
Delf's Grocery	Marquette	7		
C. G. Eck	Marquette	3		
Frank LeBonte	Marquette	6		
Lewistein & Wasserman	Marquette	4		1
Murray Grocery	Marquette	33		
W. J. O'Donnell	Marquette	4		
Rydholm Bros	Marquette	4		

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surround- ings.
Alcona County, July:					
Alcona County Creamery	Harrisville	Mrs. H. S. Johnson		50,000	Good
Spruce Valley Creamery Co.	Spruce	S. Holcomb			Good
Bay County, July:					
Kochville Milk Depot	Bay City	Fred Marr			Bad
Genesee County, July:					
Atlas Cream Station	Atlas	Detroit Creamery Co.			Good
Clio Cream Station	Clio	Flushing Creamery Co.			Good
Goodrich Creamery	Goodrich	S. H. Pearson		168,890	Fair
Huron County, July:					
Port Huron Creamery Co.	Elkton	P. E. Caryl			Good
Iosco County, July:					
W. H. Pringle	Emery Junction	W. H. Pringle			Fine
Tawas Butter Co.	Tawas City	C. E. Fahselt		50,000	Good
Lapeer County, July:					
Almont Creamery Co.	Almont	F. A. Cheverie		119,808	Good
Lenawee County, July:					
Blissfield Creamery	Blissfield	R. W. Angell		110,084	Good
Clinton Cream Station	Clinton	Tecumseh Creamery Co.			Good
Tecumseh Cream Station	Tecumseh	Medina County Cry. Co.			Good
Tecumseh Creamery	Tecumseh	Tecumseh Creamery Co.		250,518	Good
Macomb County, July:					
Lenox Cream Station	Lenox	Spencer & Howe			Good
Romeo Elgin Creamery	Romeo	Romeo Elgin Creamery Co.		78,104	Good
Spencer & Howe Cream Station	Romeo	Spencer & Howe			Good
Utica Milk Depot	Utica	Detroit Creamery Co.			Good
Washington Cream Station	Washington	Towar's Wayne Co. Cry. Co.			Good
Oakland County, July:					
Ortonville Cream Station	Ortonville	Detroit Creamery Co.			Good
Wixom Milk Depot	Wixom	Detroit Creamery Co.	1,600,840		Good
Ontonagon County, July:					
Ontonagon Creamery Co.	Ontonagon	Chas. Eichen		41,000	Good
Saginaw County, July:					
Cheesaning Produce Co.	Luce	Ray Dittwiles			Good
Michigan Creamery Co.	Saginaw	E. J. Cornwell		500,000	Good
Shiawassee County, July:					
Detroit Creamery Co.	Owosso	E. Hook			Good
Halpin Creamery	Perry	Tom Halpin		60,000	Good
Henderson Butter Co.	Henderson	John Epton		62,000	Good
Tuscola County, July:					
Medina Creamery Co.	Cass City	O. Auten			
Port Huron Creamery Co.	Cass City	C. W. Heller & Son			Good
Thumb Cooperative Creamery Co.	Caro	W. A. Mudge		85,000	Fair
Thumb Cooperative Creamery Co.	Cass City	W. A. Mudge		96,000	Good
Towar's Wayne County Creamery	Cass City	M. W. Thorpe			

CREAMERIES.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Roller.		
Good.					Good.		Good.	Poor.				91
Good.	Good.			Good.	Good.		Good.		Good.	Good.	Good.	90
Dirty.			Clean.		Clean.	Dirty.	Fair.		Fair.	Fair.	Fair.	
Clean.												
Clean.												
Clean.	Clean.			Clean.	Clean.		Fair.	Clean.	Good.	Good.		93
Good.	Good.			Good.	Good.		Good.	Good.	Good.	Good.		90
Clean.	Good.			Clean.	Clean.		Good.	Clean.	Good.	Good.		90
Clean.	Good.			Good.	Clean.		Good.	Clean.	Good.	Good.		90
Clean.												
Clean.	Good.			Clean.	Clean.		Fair.	Clean.	Good.	Good.		90
Clean.												
Clean.				Clean.	Clean.		Good.	Clean.	Good.	Good.		89
Clean.											Good.	
Clean.				Clean.	Clean.					Good.	Very good.	
Good.								Good.	Good.	Good.		
Good.												
Good.				New.	Fine.		Good.			Good.		90
				Good.	Good.		Good.	Fine.	Good.	Good.		91
Good.					Fine.		Good.	Good.		Good.		90
Good.												
Good.	Good.			Good.	Good.		Good.	Good.	Good.	Good.		91
Good.				Good.	Good.		Good.	Good.	Good.	Good.		90

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Washtenaw County, July:					
Manchester Creamery.....	Manchester.....	R. G. Sorter.....		127,819	Good...
Manchester Cream Station.....	Manchester.....	Jackson City Creamery Co.....			Good...
Saline Creamery Co.....	Saline.....	Saline Creamery Co.....		319,500	Good...
Spencer & Howe Cream Station.....	Bridgewater.....	Spencer & Howe.....			Good...
Ypsilanti Dairy Association.....	Ypsilanti.....	S. A. Wiard.....	8,914,318	405,315	Good...
Wayne County, July:					
Goldberg Creamery.....	Detroit.....	Max Goldberg.....		53,119	Fair...
Towars Milk Station.....	Denton.....	Towars Wayne Co. Cry. Co.....			Good...
Troy Milk Company Creamery.....	Detroit.....	R. Sholtz.....			Good...
Genesee County, August:					
Davison Cream Station.....	Davison.....	Port Huron Creamery Co.....			Fair...
Davison Creamery.....	Davison.....	Frank Shaw.....		143,048	Fair...
Duffield Cream Station.....	Duffield.....	Towars Creamery Co.....			Fair...
Fenton Creamery.....	Fenton.....	Parshall & Crouse.....		193,183	Good...
Flushing Creamery.....	Flushing.....	W. Kenney.....		178,904	Good...
Freeman Dairy Co.....	Flint.....	L. Freeman.....	3,390,000	241,000	Good...
Linden Cream Station.....	Linden.....	Parshall & Crouse.....			Good...
Montrose Home Creamery.....	Montrose.....	W. G. Herman.....		62,918	Good...
Mt. Morris Cream Station.....	Mt. Morris.....	Freeman Dairy Co.....			Fair...
Swartz Creek Cream Station.....	Swartz Creek.....	Davison Creamery.....			Fair...
Ionia County, August:					
Farmers Cooperative Creamery.....	Saranac.....	D. G. Barton.....		111,304	Good...
Lapeer County, August:					
Spencer & Howes Cream Station.....	Kings Mills.....	Spencer & Howe.....			Good...
Towars Cream Station.....	Clifford.....	Towars Creamery Co.....			Good...
Towars Cream Station.....	Dryden.....	Towars Creamery Co.....			Fair...
Livingston County, August:					
Brighton Creamery.....	Brighton.....	Detroit Creamery.....	5,818,906		Good...
Macomb County, August:					
Chesterfield Creamery Co.....	Chesterfield.....	C. F. Jordan.....	8,618,904	466,416	Good...
Gatz Creamery Co.....	Mt. Clemens.....	John Gatz.....	1,618,040	62,304	Good...
Macomb Skimming Station.....	Macomb.....	Gatz Creamery Co.....	624,819		Good...
Mt. Clemens Milk Depot.....	Mt. Clemens.....	Detroit Creamery Co.....	814,918		Good...
Oakland County, August:					
Cream Station.....	Holly.....	Crouse & Parshall.....			Fair...
Holly Cream Station.....	Holly.....	H. Gordon & Son.....			Fair...
Towars Cream Station.....	Holly.....	Towars Wayne Co. Cry.....			Fair...
Saginaw County, August:					
Maple Grove Elgin Butter Co.....	Layton Corners.....	Ed. Beachue.....		80,000	Good...
Shiawassee County, August:					
Lennon Creamery.....	Lennon.....	Lennon Creamery Co.....		73,251	Good...
St. Clair County, August:					
St. Clair Creamery.....	St. Clair.....	Chas. Otter.....	3,314,986		Good...
Wayne County, August:					
Breitmeyer Creamery.....	Hamtramck.....	H. Breitmeyer.....	745,000		Fair...
C. D. Creamery Co.....	Detroit.....	Jos. F. Drzinda.....	660,000		Good...
Hamtramck Creamery.....	Hamtramck.....	Jos. Cyil.....	318,000		Fair...
Towar's Milk Depot.....	Newburg.....	Towar's Wayne Co. Cry.....			Good...
J. H. Wilson & Son Creamery.....	Detroit.....	J. H. Wilson.....	4,890,000		Good...

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Briler.		
Clean...	Good...	.....	.....	Clean...	Clean...	.....	Fair...	Clean...	Good...	Good...	.....	91
Clean...	Good...	.....	.....	Clean...	Clean...	.....	Good...	Good...	Good...	Good...	.....	90
Clean...	Good...	Clean...	Good...	Clean...	Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	95-1-2
Clean...	.....	.....	.....	Clean...	Clean...	.....	Fair...	Clean...	Good...	Good...	.....	90
.....	.....	Clean...	Clean...	Clean...	Good...	.....	Good...	.....	Good...	Good...	Good...	.....
Clean...	.....	.....	.....	.....	Good...	.....	Bad...	Fair...	Good...	Good...	.....	90
Clean...	Good...	.....	.....	.....	Clean...	.....	Good...	Clean...	Good...	Good...	.....	91
Clean...	Good...	.....	.....	.....	Clean...	.....	Good...	Clean...	Good...	Good...	.....	91
Clean...	Good...	Clean...	Clean...	Clean...	Good...	.....	Good...	Clean...	Good...	Good...	Good...	90
Clean...	Good...	.....	.....	.....	Clean...	.....	Good...	Clean...	Good...	Good...	.....	90
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Good...	.....	.....	.....	Clean...	.....	Fair...	Clean...	Good...	Good...	.....	91
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...	Good...	Clean...	Good...	Good...	Fair...	93
Clean...	Clean...	Good...	Clean...	Clean...	Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	93
Clean...	Good...	Clean...	Clean...	Clean...	Clean...	Good...	Good...	Clean...	Good...	Good...	Good...	94
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...	.....	Good...	Good...	Good...	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Good...	.....	.....	.....	.....	Good...	.....	.....	Good...	.....	.....	.....	.....
Clean...	Good...	.....	.....	.....	Clean...	.....	Good...	Clean...	Good...	Good...	.....	90
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...	.....	Good...	Good...	Fair...	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Good...	.....
.....	Clean...	.....	.....	Clean...	Clean...	.....	Good...	.....	Good...	Good...	Good...	.....
.....	.....	.....	.....	Clean...	Clean...	.....	Good...	.....	Good...	Good...	Good...	.....

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese, pounds.	Style.
Genesee County, July:					
Wilson Cheese Co.....	Chio.....	Geo. Knickerbocker.....	1,490,000	140,812	Michigan Soft.
Iosco County, July:					
Hemlock Cheese Factory.....	Tawas City.....	A. J. Lock.....			Michigan Cheddar.
Oakland County, July:					
New Hudson Cheese Factory...	N. Hudson.....	Towars Wayne Co. Cry..			Michigan Soft.
Genesee County, August:					
Montrose Cheese Factory.....	Montrose.....	M. C. Dowd.....	418,000	42,804	Michigan Soft.
Swarta Creek Cheese Factory...	Swarta Creek...	Bert Freeman.....			Michigan Cheddar.

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
Geo. DeLong	Medium...	2-good...	2-gang...		Fair.....		15 H. P.	Very fair.....	
A. J. Lock	Good.....	1-good...	1-gang...		Good.....		8 H. P.	Good.....	
A. B. Robertson....	Good.....	1-good...	1-gang...		Clean.....		15 H. P.	Good.....	
Alex Cassidy.....	Good.....	2-good...	1-gang...		Fair.....		6 H. P.	Good.....	
John Wise.....	Good.....	1-clean...	1-gang...	Curtis.	Clean.....	Marshall.	10 H. P.	Fair.....	

STATE OF MICHIGAN.

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Ludington, July:											
Chas. Bengtson	83	71	73	76	87	390	Poor				
Jacob Bjorklund	69	68	55	70	60	322	Poor				
B. Bognasewics	80	70	65	77	77	369	Poor				
Christine Bolin	78	70	73	75	77	373	Poor				
F. & L. Boswell	88	69	73	78	90	398	Poor				
Minnie Brant	76	64	73	78	72	363	Poor				
Chas. Carlson	77	70	73	78	77	375	Poor				
Chester Case	75	69	70	78	68	360	Poor				
C. H. Dahm	98	86	74	83	93	434	Medium				
Mrs. Molly Earl	80	72	73	78	83	386	Poor				
J. W. Hansen	78	60	73	78	79	368	Poor				
James Johnson	83	68	73	78	77	379	Poor				
John Johnson	84	66	82	78	90	400	Medium				
N. A. Johnson	77	68	70	78	80	373	Poor				
Frank Loudon	78	39	65	75	60	317	Poor				
John Lunde	68	38	73	75	70	324	Poor				
Martin Lund	77	64	73	78	77	369	Poor				
Nels Lund	76	59	73	78	77	363	Poor				
Ralph Nelson	73	66	73	78	72	362	Poor				
Casper O'Dean	95	76	74	78	90	413	Medium				
Chas. G. Petersen	80	70	73	78	82	383	Poor				
Swan Petersen	88	81	83	79	90	421	Medium				
P. A. Petersen	78	66	73	78	77	372	Poor				
Henry Poisman	72	59	73	78	70	352	Poor				
John Ratka	76	57	73	78	77	361	Poor				
Edward Shea	73	62	73	78	77	363	Poor				
Adolph Vadaeik	79	70	73	78	77	377	Poor				
Daniel Van Wert	77	49	78	75	80	359	Poor				
Marquette, July:											
J. M. Longyear	100	100	95	100	100	495	Excellent	3.6	32	12.32	8.72
Mendon, July:											
J. & F. Mitchell	73	30	53	78	75	309	Poor				
Geo. Wills	76	32	76	78	77	339	Poor				

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1914

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

JAMES W. HELME.....	COMMISSIONER
BURR B. LINCOLN.....	DEPUTY COMMISSIONER
FERN L. SHANNON.....	STATE ANALYST
M. J. SMITH.....	CHIEF CLERK
A. R. TODD.....	DRUG ANALYST

WARNING TO CREAMERIES AND FARMERS.

The outbreak of the foot and mouth disease in Michigan, if it attacks the dairy herds in the state, promises untold and irreparable damage to the dairy industry. In Berrien County it was found that many herds of hogs were afflicted with the disease before any symptoms were shown by the cattle on the same farms. This was traced to the fact that skim milk from creameries receiving whole milk was sent back to the farms to be fed to the hogs. The milk from one infected herd sent to the creamery would thus infect the hogs of all farmers sending milk to that creamery. The hogs would in turn infect the cattle.

Creameries are hereby warned *not* to send back to the farm any skim milk unless it is first pasteurized as long as the disease prevails in the state.

Farmers are warned *not* to feed skim milk to their hogs that comes from any creamery unless it has first been heated to the boiling point.

The wide-spread prevalence of this disease caused by the shipment of feeding cattle from Chicago makes all points in the Lower Peninsula dangerous if skimmed milk is fed to hogs. The same argument applies to whey returned from cheese factories.

Compliance with these regulations, until the disease is stamped out, is of the utmost importance to the creameries and cheese factories of the state and their patrons if the dairy herds are to be spared the frightful ravages of this disease.

Inspectors of this department will see that these regulations are enforced until the removal of the quarantine.

JAMES W. HELME,
State Dairy & Food Commissioner.

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of September and October, 1914:

Adrian, Ahmeek, Akron, Albion, Allegan, Allendale, Allouez, Alpena, Ann Arbor, Arbela, Arthur, Ashley, Ashton, Auburn, Au Sable, Azalia, Bangor, Bannister, Baroda, Battle Creek, Bay City, Bayshore, Bellaire, Bellevue, Benton Harbor, Berlin, Beulah, Birmingham, Blackmar, Blissfield, Breckenridge, Brent Creek, Britton, Bronson, Brown City, Buchanan, Byron Center, Cadillac, Caledonia, Capac, Carney, Casnovia, Cass City, Chapin, Charlotte, Chatham, Cheboygan, Chelsea, Clare, Clifford, Clio, Cobmoosa, Coldwater, Coloma, Coopersville, Copemish, Copper City, Corunna, Dearborn, Derinison, Detroit, Disco, Dowagiac, Dun-

dee, Durand, Eastmanville, East Tawas, Eaton Rapids, Eben Junction, Edmore, Elkton, Emery Junction, Farwell, Fennville, Fern, Ferrysburg, Fisher, Fisherville, Gageton, Gaylord, Germfask, Gibraltar, Gilford, Glennie, Gourley, Grand Haven, Grand Rapids, Grawn, Grayling, Greenfield, Hancock, Harbor Beach, Hart, Hartford, Hastings, Hillsdale, Holland, Honor, Howell, Ida, Imlay City, Ingalls, Interlochen, Ithaca, Jackson, Kalamazoo, Kawkawlin, Kingsley, Kingston, Kintner, Laingsburg, Lake Odessa, Lakeview, Lansing, Lapeer, LaSalle, Laurium, Lawrence, Lawton, LeRoy, Leslie, Limestone, Linwood, Loretto, Lott, Lowell, Lulu, Lum, McBain, Macomb, Manning, Marion, Marshall, Martin, Mason, Menominee, Merrill, Midland, Milan, Milford, Millburg, Mohawk, Monroe, Montrose, Mt. Pleasant, Munising, Muskegon, Nadeau, Newaygo, New Lothrop, Newport, Northport, Norway, Nunica, Oak Grove, Olivet, Omer, Otsego, Owosso, Oxford, Palmyra, Paw Paw, Petoskey, Pipestone, Plainwell, Prescott, Quanicassee, Reese, Rogers City, Royal Oak, Rumley, Saginaw, St. Joseph, Sault Ste. Marie, Sebewaing, South Rockford, Stephenson, Stevensville, Sturgis, Swartz Creek, Tawas City, Taymouth, Thompsonville, Traverse City, Trenary, Tustin, Utica, Vassar, Vernon, Vineland, Vulcan, Waldenburg, Walkerville, Wallace, Walton, Watervliet, Wayland, Wayne, Wetmore, Whitmore Lake, Whittemore, Wilson, Winters, Woodbury, Wyandotte, Zeeland.

PROSECUTIONS.

Since beginning of fiscal year, July 1, 1914.

Cases pending July 1, 1914.....	36
Cases commenced since said date.....	129

CASES DISPOSED OF.

Before examining magistrate:	
Defendants bound over.....	39
Defendants discharged.....	8
In trial courts:	
Defendants convicted.....	85
Defendants acquitted.....	2
Cases pending November 1, 1914.....	70

In the case pending in circuit court, county of Charlevoix, against Louis Galinsky charged with selling diseased pork, September 2, defendant acquitted.

In the case pending in circuit court, county of Houghton, against Henry Martinmaki charged with selling sausage containing an excessive amount of cereal. September 5, defendant entered a plea of guilty. Sentence suspended on payment of \$15 costs.

In the case pending in justice court, city of Sault Ste. Marie, against W. G. Tapert charged with selling sausage containing an excessive

amount of cereal. September 8, defendant bound over to circuit court for trial. Defendant entered a plea of guilty. Fined \$100 and costs.

In the case pending in recorder's court, city of Detroit, against C. A. Little charged with selling Tr. iodine not in conformity with legal standard. September 25, jury disagree. Will be retried.

In the case pending in circuit court, county of Cass, against Clarence Squires charged with selling sausage containing an excessive amount of cereal. September 14, defendant entered a plea of guilty. Fined \$100 and costs.

In the case pending in circuit court, county of Cass, against Clare F. Pugsley charged with selling sausage containing an excessive amount of cereal. September 14, defendant entered a plea of guilty. Fined \$100 and costs.

In the case pending in police court, city of Detroit, against F. W. Gordon charged with selling camphor liniment not in conformity with legal standard. Defendant bound over to recorder's court. Defendant disposed of business. Case dismissed.

In the case pending in circuit court, county of Cass, against Harlan Lacky charged with selling sausage containing an excessive amount of cereal. September 14, defendant entered a plea of guilty. Fined \$100 and costs.

In the case pending in justice court, city of Coldwater, against F. E. Robinson, charged with selling adulterated milk. Case dismissed.

In the case pending in circuit court, county of Van Buren, against Wilbur J. Warner charged with selling Hamburg steak which contained sulphites. Defendant entered a plea of guilty and was fined \$25 and costs.

In the case pending in circuit court, county of Van Buren, against Dwight C. Barker charged with selling sausage containing cereal without stamping. Defendant entered a plea of guilty. Fined \$100 and costs.

In the case pending in justice court of Thompsonville, against David N. Cornell charged with selling sausage containing an excessive amount of cereal. October 21, defendant bound over to circuit court for Benzie county for trial. October 22, defendant entered a plea of guilty. Fined \$100.

In the case pending in superior court, city of Grand Rapids, against Jacob Sanford charged with selling Hamburg steak which contained sulphites. October 5, defendant entered a plea of guilty. Sentence pending.

In the case pending in superior court, city of Grand Rapids, against Martin Zinzer charged with selling sausage containing an excessive

amount of cereal. October 9, defendant entered a plea of guilty. Fined \$100 and costs.

In the case pending in circuit court, county of Ottawa, against Henry Botbyl charged with selling renovated butter without stamping. September 11, defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in circuit court, county of Shiawassee, against Fred Axford charged with selling sausage containing excessive cereal. September 21, defendant entered a plea of guilty. Fined \$10.

In the case pending in circuit court, county of Shiawassee, against Anton Greilich charged with selling sausage containing an excessive amount of cereal. September 21, defendant entered a plea of guilty. Fined \$10.

In the case pending in justice court, city of Cheboygan, against Thomas Stevenson charged with selling sausage containing cereal without stamping. August 28, case dismissed.

In the case pending in justice court, city of Cheboygan, against Curtis Fairchild charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$1 and costs.

In the case pending in circuit court, county of Cheboygan, against John A. Garrow charged with selling sausage containing excessive cereal. October 15, case dismissed.

In the case pending in justice court, village of Gaylord, against C. L. Merry charged with shipping unwashed ice cream cans. September 5, defendant entered a plea of guilty. Sentence suspended on payment of \$3.60 costs.

In the case pending in justice court, city of Petoskey, against Roy H. Comstock charged with selling a peck of potatoes short weight. October 6, defendant acquitted.

In the case pending in justice court, city of Flint, against Wm. Yaster charged with selling adulterated milk. September 1, defendant entered a plea of guilty. Fined \$10 and costs.

In the case pending in police court, city of Detroit, against Wm. A. Lewis charged with selling process butter for creamery butter. Case dismissed.

In the case pending in justice court, city of St. Ignace, against Patrick Gallagher charged with selling sausage which contained cereal without stamping. September 3 case dismissed on the defendant paying \$3.10 costs.

In the case pending in justice court, city of St. Ignace, against Martin Fair of Fair Bros. charged with the sale of sausage containing cereal

without stamping. September 3, case dismissed on the defendant paying \$3.10 costs.

Complaint was made September 4 in justice court, city of Traverse City, against Lewis S. Walter charged with selling lard compound without stamping. September 9, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made September 5 in justice court, city of St. Joseph, against John Franklin charged with violation of law pertaining to table grapes. Case pending.

Complaint was made September 5 in justice court, city of St. Joseph, against A. C. Beremal charged with violation of law pertaining to table grapes. Case pending.

Complaint was made September 5 in justice court, city of St. Joseph, against B. J. Eaman charged with violation of law pertaining to table grapes. Case pending.

Complaint was made September 8 in justice court, city of St. Joseph, against G. W. Peters charged with violation of law pertaining to table grapes. Case pending.

Complaint was made September 9 in justice court, city of Owosso, against Chas. Capatan charged with the sale of adulterated milk. October 14, defendant acquitted.

Complaint was made September 9 in justice court, city of Owosso, against Warren Sternman charged with the sale of adulterated milk. September 10, defendant entered a plea of guilty. Fined \$10.

Complaint was made September 10 in justice court, city of Grayling, against C. Asa Traviss charged with selling sausage containing an excessive amount of cereal. Case pending.

Complaint was made September 10 in justice court, city of Grayling, against Frank H. Milks charged with selling sausage containing excessive cereal. Case pending.

Complaint was made September 10 in justice court, city of St. Joseph, against Christ Ruff charged with the violation of the law pertaining to table grapes. Defendant entered a plea of guilty. Sentence suspended.

Complaint was made September 10 in justice court, city of St. Joseph, against Nelson C. Emery charged with violation of the fruit law. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made September 10 in justice court, city of St. Joseph, against Carl Scheader charged with violation of the law pertaining to table grapes. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made September 10 in justice court, city of St. Joseph, against Albert Hafer charged with violation of law pertaining to table grapes. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made September 17 in justice court, city of Alpena, against Wm. E. Hazell charged with selling sausage containing cereal and not stamping same. Bound over to circuit court for trial. Case pending.

Complaint was made September 17 in justice court, city of Alpena, against August Kannowski charged with selling sausage containing cereal and not stamping same. Bound over to circuit court for trial. Case pending.

Complaint was made September 17 in justice court, city of Alpena, against Chris Nilson charged with selling sausage containing an excessive amount of cereal. Bound over to circuit court for trial. Case pending.

Complaint was made September 17, in justice court, city of Alpena, against W. J. Gabrysiac charged with selling sausage containing cereal and not stamping same. Bound over to circuit court for trial. Case pending.

Complaint was made September 17 in justice court, city of Alpena, against John B. Markowski charged with selling sausage containing an excessive amount of cereal. Defendant bound over to circuit court for trial. Case pending.

Complaint was made September 17 in justice court, city of Alpena, against Louis T. St. Onge charged with selling sausage containing excessive cereal. Defendant bound over to circuit court for trial. Case pending.

Complaint was made September 17, in justice court, city of Alpena, against M. A. Shubert charged with selling sausage containing cereal and not stamping same. Defendant bound over to circuit court for trial. Case pending.

Complaint was made September 17 in justice court, city of Alpena, against J. Louis St. John charged with selling sausage containing an excessive amount of cereal. Defendant bound over to circuit court for trial. Case pending.

Complaint was made September 17, in justice court, city of Alpena, against Dan Duchene charged with selling sausage containing an excessive amount of cereal. Defendant bound over to circuit court for trial. Case pending.

Complaint was made September 17 in justice court, city of Alpena, against Albert Kruger charged with selling sausage containing cereal

and not stamping same. Defendant bound over to circuit court for trial. Case pending.

Complaint was made September 17 in justice court, city of Alpena, against Ed. F. Kramm charged with selling sausage containing an excessive amount of cereal. Defendant bound over to circuit court for trial. Case pending.

Complaint was made September 17, in justice court, city of Alpena, against J. Walle & Son charged with selling sausage containing cereal and not stamping same. Defendant bound over to circuit court for trial. Case pending.

Complaint was made September 18 in police court, city of Detroit, against Wm. H. Berk charged with the sale of adulterated butter. October 9, defendant bound over to recorder's court for trial. Case pending.

Complaint was made September 18 in justice court of Rogers, against Henry Lamb charged with the sale of adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made September 18 in justice court, city of Benton Harbor, against Abraham Pizwitz charged with the violation of the fruit law. Defendant entered a plea of guilty and was fined \$1 and costs.

Complaint was made September 19 in justice court, city of St. Joseph, against Truman Bellinger charged with the violation of the fruit law. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made September 19 in justice court, city of St. Joseph, against F. H. Payne charged with violation of law pertaining to table grapes. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made September 21 in justice court, city of Benton Harbor, against Geo. Shirley charged with violation of the fruit law. Defendant entered a plea of guilty. Fined \$2 and costs.

Complaint was made September 21 in justice court, city of Coldwater, against Thos. Ludwick charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made September 21 in justice court, city of Sturgis, against Pete Ferro charged with shipping unclean ice cream can. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made September 21 in justice court, city of Coldwater, against Frank Claare charged with the sale of adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made September 28 in justice court, city of St. Joseph.

against Christ Feltner charged with violation of fruit law. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made September 28 in police court, city of Jackson, against Christ Gwinner charged with selling sausage containing excessive cereal. Defendant entered a plea of guilty. Sentence suspended on payment of \$16 costs.

Complaint was made October 2 in justice court, village of Stephenson, against John Moberg charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made October 5 in police court, city of Detroit, against Ralph G. Mitter charged with selling Tr. Iodine not in conformity with legal standard. October 16, case dismissed.

Complaint was made October 6 in justice court, city of Menominee, against C. A. Hassel charged with selling peck of potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made October 9 in justice court of Rogers against Thomas Oben charged with selling sausage containing an excessive amount of cereal. Defendant entered a plea of guilty. Fined \$100.

Complaint was made October 14 in justice court, city of Ithaca, against Carl J. Willis charged with violation of sugar beet law. Case pending.

Complaint was made October 14 in justice court, city of Ithaca, against Ernest Culver, charged with violation of sugar beet law. Case pending.

Complaint was made October 14 in justice court, city of Ithaca, against Nicholas W. Wirebaugh charged with violation of sugar beet law. Case pending.

Complaint was made October 14 in justice court, city of Benton Harbor, against J. Levinson charged with violation of the fruit law. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made October 14 in justice court, city of Benton Harbor, against J. Miller charged with violation of fruit law. Defendant entered a plea of guilty. Fined \$2 and costs.

Complaint was made October 14 in justice court, city of Benton Harbor, against Fred Schaer charged with violation of fruit law. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made October 19 in justice court, city of Charlotte, against Frank Overmyer charged with violation of sugar beet law. Defendant entered a plea of guilty. Fined \$5.

Complaint was made October 19 in justice court, city of Charlotte, against John Sharkey charged with violation of sugar beet law. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made October 20 in justice court, city of Traverse City, against Peter Naylor charged with selling sausage containing an excessive amount of cereal. Defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made October 21 in justice court, city of Bellaire, against John Bachi charged with selling sausage containing cereal and not stamping same. Case pending.

Complaint was made October 26 in justice court, city of Charlotte, against L. M. Wood charged with sale of insanitary milk. Defendant entered a plea of guilty. Fined \$10.

Complaint was made October 27 in justice court, city of Saginaw, against E. Wilson Cressey charged with violation of the sugar beet law. Case pending.

Complaint was made October 27 in police court, city of Grand Rapids, against Ray Cadwell charged with using excessive cereal in the manufacture of sausage. Case pending.

Complaint was made October 27 in police court, city of Grand Rapids, against Felspaugh Bros., charged with using excessive cereal in the manufacture of sausage. Case pending.

Complaint was made October 27 in police court, city of Grand Rapids, against Jacob Verschoor charged with using excessive cereal in the manufacture of sausage. Case pending.

Complaint was made October 29 in justice court, city of Lake Odessa, against B. Haddie charged with selling sausage containing cereal which was not stamped. Case pending.

Complaint was made October 29 in justice court, city of Lake Odessa, against E. M. Dorine charged with the sale of adulterated milk. Case pending.

November 1, 1914.

Hon. James W. Helme, Dairy & Food Commissioner, Lansing, Mich.

Dear Sir:—I herewith beg to report on the samples analyzed in the Department laboratory during the months of September and October.

One hundred forty-one samples were submitted and examined, 41 of these were found to be adulterated, misbranded or formed the part of an illegal sale and were therefore in violation of the food laws.

Two samples of corn syrup that were examined formed the basis of the department's stand that the labeling of cans of syrup should be in

pints, quarts, etc., instead of pounds or fractions thereof. In other words, syrup and like commodities are commonly bought by volume rather than by weight. Therefore, it is the contention of this department that the net volume should be stated on the label instead of the net weight.

Twenty samples of cream were examined; all were found to contain over 18% butter fat and therefore conformed to the legal standard for cream.

Three samples of vanilla extracts were examined. One of these was found to be adulterated within the meaning of the food law, in that it was a dilute vanilla extract and did not conform to the standard for vanilla extracts.

Four samples of linseed oil were examined. Two were adulterated. These we find are from the same source as many others that we have had before, viz. the Noble Refining Co., Cleveland, Ohio. They are about the same type and grade of linseed oil that the firm has been in the habit of putting on the market for some time past. We have examined products from the Noble Refining Company before and have invariably found them to be adulterated.

Two samples of commercial preservatives were examined. These are the substances that are used in chopped meats, especially Hamburger steak. One of these labeled "Iceine" was found to contain sulphites, a preservative that is not permitted in food products.

Yours truly,

F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Butter.....	9	7	2
Catsup.....	1	1	0
Cheese.....	1	1	0
Coffee.....	1	1	0
Corn syrup.....	2	0	2
Cream.....	20	20	0
Flavoring preparations.....	3	2	1
Flour.....	3	1	2
Grapes.....	1	1	0
Hamburg.....	2	1	1
Honey.....	2	2	0
Horse radish.....	1	1	0
Ice cream.....	1	1	0
Lard.....	3	3	0
Linseed Oil.....	4	2	2
Maple syrup.....	1	1	0
Milk.....	52	37	15
Oleomargarine.....	1	0	1
Olives.....	1	0	1
Pickles.....	1	1	0
Preservatives.....	2	1	1
Sausage.....	18	6	12
Soft drinks.....	2	2	0
Syrup.....	1	1	0
Vinegar.....	8	7	1
Totals.....	141	100	41

ANALYSES OF SAMPLES.

BUTTER.

No. 30853, M-8. Sample of butter procured from Wm. A. Lewis, 205 Second St., Detroit. Label states "Guaranteed Pure Creamery Butter. Michigan Special Brand." Sample is renovated butter.

No. 31015. Unofficial sample of butter. Sample is renovated butter.

CORN SYRUP.

No. 30987, T-43. Sample of Karo Corn Syrup manufactured by the Corn Products Co., Chicago. Misbranded in that the net volume is stated in terms of pounds instead of pints, quarts, etc.

No. 30988, T-44. Sample of Karo Corn Syrup manufactured by the Corn Products Co., Chicago. Misbranded in that the net volume is not stated in terms of pints, quarts, etc.

FLAVORING PREPARATIONS.

No. 30771, V-87. Sample of Banner Vanilla Extract manufactured by the Banner Extract Co., Detroit. Product is adulterated for the reason that a dilute extract of vanilla has been mixed or packed with the true extract, thereby reducing, lowering and injuriously effecting its quality.

FLOUR.

No. 31162, I-376. Sample of graham flour procured from E. R. Hazard, Jackson. Misbranded in that the net weight is not properly stated.

No. 31173, B-156. Sample of Napoleon Flour manufactured by the Washburn Crosby Co., Minneapolis. Misbranded in that the net weight is not stated on the sack.

HAMBURG.

No. 30931, I-359. Sample of Hamburg Steak manufactured and sold by Henry Breidenstein, Mt. Pleasant. Product contains a small amount of sulphurous acid or salts thereof.

LINSEED OIL.

No. 31167, B-151. Sample of Linseed Oil manufactured by the Noble Refining Co., Cleveland, Ohio, and procured from Jos. Solomon, Glennie. Not a pure linseed oil. Adulterated with a petroleum product.

No. 31168, B-152. Sample of Linseed Oil manufactured by the Noble Refining Co., Cleveland, Ohio, and procured from Jos. Solomon, Glennie. Not a pure linseed oil. Adulterated with a petroleum product.

MILK.

No. 30906, P-1323. Sample of milk procured from Lincoln Culp, Lake Odessa. Butter fat 2.8%. Below standard.

No. 30907, P-1324. Sample of milk procured from E. M. Dorrine, Sebewa Corners. Butter fat 2.4%. Below standard.

No. 30908, P-1325. Sample of milk procured from Bert Bachelder, Lake Odessa. Butter fat 2.9%. Below standard.

No. 30909, P-1326. Sample of milk procured from Fred McNeil, Lake Odessa. Butter fat 2.8%. Below standard.

No. 30910, P-1327. Sample of milk procured from Clarence Possehn, Portland. Butter fat 2.8%. Below standard.

No. 30978, P-1338. Sample of milk procured from Frank Claire, Bronson. Butter fat 2.4%, total solids 11.95%. Below standard in butter fat and total solids.

No. 30982, P-1342. Sample of milk procured from Tom Ludwig, Bronson. Butter fat 2.6%. Below standard in butter fat.

No. 30998, P-1343. Sample of milk procured from the Little Phoenix Restaurant, Charlotte. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 31001, P-1346. Sample of milk procured from Ellis W. Dorin, Portland. Below standard in butter fat and total solids.

No. 31004, P-1349. Sample of milk procured from Wm. Shelhorn, Lake Odessa. Below standard in butter fat and total solids.

No. 31009, P-1354. Sample of milk procured from Wm. Shelhorn, Lake Odessa. Sample contains an excessive amount of dirt.

No. 31010, P-1355. Sample of milk procured from Rowlader & James, Woodland. Contains an excessive amount of dirt.

No. 31072, N-69. Sample of milk produced by Mike Jakowsyk, Millington RFD. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 31073, N-70. Sample of milk produced by Alfred Bell, Millington RFD. Below standard in specific gravity, butter fat and total solids. Sample contains about 31% added water.

No. 31084, N-71. Sample of milk produced by William Eaton, Elkton. Below standard in specific gravity, butter fat and total solids. Sample contains about 14% added water.

OLEOMARGARINE.

No. 30991, B-147. Sample of oleomargarine procured from Chas. Wilcox, Frederic. No sign posted.

OLIVES.

No. 31020, F-211. Sample of olives handled by Rademaker Dooge Co., Grand Rapids and procured from A. McDonald & Son, Newaygo. Misbranded in that the manufacturer's name and address is not stated on the label.

PRESERVATIVES.

No. 29725, P-1213. Sample of Iceine manufactured by the Heller Chemical Co., Chicago. Contains sodium sulphite. Not permissible in food products.

SAUSAGE.

No. 30905, P-1322. Sample of bologna sausage manufactured and sold by B. Haddix, Lake Odessa. Product contains cereal. Package or

product not marked or stamped to indicate presence of cereal.

No. 30929, F-207. Sample of sausage manufactured and sold by John Sack, Edmore. Cereal 3.87%. Product contains an excessive amount of cereal.

No. 31018, F-209. Sample of bologna sausage manufactured and sold by A. E. Truman, Newaygo. Cereal 2.94%. Contains an excessive amount of cereal.

No. 31019, F-210. Sample of bologna sausage procured from Ben Benson, Newaygo. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 31135, F-212. Sample of sausage manufactured and sold by Joe Kamantowsky, Grand Rapids. Cereal present. Package or product not marked or stamped to indicate presence of cereal.

No. 31136, F-213. Sample of Frankfurt sausage manufactured by Ray Caldwell, Grandville. Cereal 3.92%. Product contains an excessive amount of cereal.

No. 31137, F-214. Sample of sausage manufactured and sold by Wage-nar Bros., Grand Rapids. Cereal 2.87%. Product contains an excessive amount of cereal.

No. 31138, F-215. Sample of sausage manufactured and sold by Henry Demmink, Grand Rapids. Cereal present. Package or product not marked or stamped to indicate the presence of cereal.

No. 31139, F-216. Sample of Frankfurt Sausage manufactured by Felspauch, Grand Rapids. Cereal 6.39%. Contains an excessive amount of cereal.

No. 31140, F-217. Sample of Frankfurt Sausage manufactured and sold by J. Verschoor, Grand Rapids. Cereal 6.02%. Contains an excessive amount of cereal.

No. 31039, B-149. Sample of sausage procured from Thomas Oben, Rogers City. Cereal 3.64%. Contains an excessive amount of cereal.

No. 31150, I-367. Sample of sausage manufactured and sold by Clem R. Brewer, Alma. Cereal 7.79%. Contains an excessive amount of cereal.

VINEGAR.

No. 30866. Unofficial sample of vinegar. Below standard in acidity.

DRUG INSPECTIONS.

The following places were visited by the Department's drug inspection force during the months of September and October, 1914:

Albion, Alma, Alpena, Baraga, Belleville, Benton Harbor, Bronson, Buchanan, Burr Oak, Calumet, Casnovia, Cedar Springs, Charlotte, Clare, Clarksville, Coldwater, Coloma, Crystal Falls, Decatur, Detroit, Dimondale, Eaton Rapids, East Tawas, Escanaba, Farmington, Flint, Freeport, Gladstone, Grand Junction, Grand Rapids, Grandville, Grosse Pointe, Hamtramck, Hancock, Hastings, Highland Park, Houghton, Hubbell, Iron Mountain, Iron River, Ishpeming, Ithaca, Jackson, Kalamazoo, Kent City, Lake Linden, Lake Odessa, L'Anse, Lansing, Laurium, Law-

ton, Marquette, Marshall, Mendon, Menominee, Middleville, Mt. Pleasant, Munising Muskegon Heights, Negaunee, Newaygo, Newberry, Niles, North Escanaba, Northville, Norway, Ontonagon, Otsego, Parma, Powers, Redford, Rockford, St. Joseph, St. Louis, Sand Lake, Sault Ste. Marie, Schoolcraft, Shepherd, South Range, Stambaugh, Stanton, Sturgis, Tawas City, Three Rivers, Union City, Vicksburg, Watervliet, Wayland, Wells, White Pigeon, Zeeland.

November 1, 1914.

Hon. James W. Helme, Dairy & Food Commissioner, Lansing, Mich.

Dear Sir:—I herewith beg to submit the report on the work of the Drug Department for the months of September and October.

During these two months eighty samples were analyzed, twenty-three or twenty-eight and seven-tenths per cent were found to be adulterated or misbranded in that they did not comply with the requirements of the drug law.

Yours truly,
A. R. TODD,
Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Alcohol (ethyl).....	1	0	1
Aspirin tablets.....	1	1	0
Camphor liniment.....	5	4	1
Elix. phos., iron, quinine and strychnine.....	1	1	0
Essence pepsin.....	2	0	2
Extract beef, iron and wine.....	1	1	0
Extract vanilla.....	1	1	0
Fowler's solution.....	2	1	1
Iodide potash tablets.....	1	1	0
Nitro-glycerine tablets.....	10	10	0
Selditz powders.....	1	1	0
Sodium bromide tablets.....	1	1	0
Sodium salicylate tablets.....	1	1	0
Spirits camphor.....	7	6	1
Spirits peppermint.....	10	6	4
Tr. iodine.....	29	17	12
Tr. opium.....	5	5	0
Zinc oxide ointment.....	1	0	1
Totals.....	80	57	23

ANALYSES OF SAMPLES.

ALCOHOL.

No. 31111, Q-460. Sample of ethyl alcohol manufactured by Ritter & Co., Detroit, and procured from A. D. Burnham, Detroit. Alcohol by vol. 80%. Low in alcohol.

CAMPHOR LINIMENT.

No. 31131, Z-464. Sample of camphor liniment manufactured and sold by the D. T. Paulson Co., Grand Rapids. Camphor 12.6%. Low in camphor.

ESSENCE PEPSIN.

No. 31105, Q-454. Sample of essence pepsin procured from the Coonley Drug Co., 617 Woodward Ave., Detroit. Does not conform to N. F. 3rd edition. Low in pepsin strength.

No. 31108, Q-457. Sample of essence pepsin manufactured by Lambert & Lowman, Detroit, and procured from the City Pharmacy, 295 Jefferson Ave., East, Detroit. Does not conform to N. F. 3rd edition. Low in pepsin strength.

FOWLERS SOLUTION.

No. 30913, Z-439. Sample of Fowlers Solution manufactured and sold by W. W. Moore, Coopersville. Arsenic trioxide .609%. Low in arsenic trioxide.

SPIRITS CAMPHOR.

No. 31103, Q-452. Sample of spirits camphor manufactured and sold by Reedy & Groshaw, 116 Clifford St., Detroit. Camphor 8.3%. Low in camphor.

SPIRITS PEPPERMINT.

No. 31113, Q-462. Sample of spirits peppermint manufactured and sold by A. D. Burnham, 807 McGraw, Detroit. Oil of peppermint 4.5%. Low in oil of peppermint.

No. 31117, Q-466. Sample of spirits peppermint manufactured and sold by the Home Pharmacy, 405 Gratiot Ave., Detroit. Oil of peppermint 7.4%. Low in oil of peppermint.

No. 31127, Z-459. Sample of spirits peppermint manufactured and sold by Myers Bros., Gobles. Oil of peppermint 2.7%. Low in oil of peppermint.

No. 31151, Z-466. Sample of spirits peppermint manufactured and sold by H. E. Earle, Rockford. Oil of peppermint 5.5%. Low in oil of peppermint.

TINCTURE IODINE.

No. 30911, Q-439. Sample of Tr. Iodine manufactured and sold by A. Korth, Jr., 994 Kercheval, Detroit. Iodine 6.9 gms., potassium iodide 2.4 gms. per 100 cc. Low in potassium iodide.

No. 30915, Z-441. Sample of Tr. Iodine manufactured and sold by B. Schutte, Grand Rapids. Iodine 6.09 gms., potassium iodide 3.963 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30928, Q-440. Sample of Tr. Iodine manufactured and sold by J. C. Campbell, 463 Concord St., Detroit. Iodine 6.09 gms., potassium iodide 3.204 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31033, Z-450. Sample of Tr. Iodine manufactured and sold by S. Barmore, Niles. Iodine 3.43 gms. potassium iodide 3.933 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31099, Q-448. Sample of Tr. Iodine manufactured and sold by J. C. Berridge, Flint. Iodine 8.3 gms., potassium iodide 2.063 gms. per 100 cc. Contains an excessive amount of iodine and is low in potassium iodide.

No. 31104, Q-453. Sample of Tr. Iodine manufactured and sold by the Vaughan Pharmacy, 1760 Michigan Ave., Detroit. Iodine 5.51 gms., potassium iodide 1.885 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31112, Q-461. Sample of Tr. Iodine manufactured and sold by A. D. Burnham, 807 McGraw, Detroit. Iodine 3.22 gms., potassium iodide 6.6 gms. per 100 cc. Low in iodine.

No. 31132, Z-465. Sample of Tr. Iodine manufactured and sold by F. H. Escott, Grand Rapids. Iodine 3.31 gms., potassium iodide 2.922 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31153, Z-468. Sample of Tr. Iodine manufactured and sold by R. W. Cochrane, Kalamazoo. Iodine 9.65 gms., potassium iodide 5.569 gms. per 100 cc. Contains an excessive amount of iodine.

No. 31157, Z-472. Sample of Tr. Iodine manufactured and sold by the Miller Drug Co., Union City. Iodine 2.946 gms., potassium iodide none. Low in iodine and potassium iodide.

No. 31158, Z-473. Sample of Tr. Iodine manufactured and sold by G. K. Whiting, Union City. Iodine 15.24 gms., potassium iodide 8.75 gms. per 100 cc. Contains an excessive amount of iodine and potassium iodide.

No. 31193, Z-477. Sample of Tr. Iodine manufactured and sold by Percy H. Lewis, Watervliet. Iodine 10.78 gms., potassium iodide 9.759 gms. per 100 cc. Contains an excessive amount of iodine and potassium iodide.

ZINC OXIDE OINTMENT.

No. 31102, Q-451. Sample of zinc oxide ointment manufactured by Nelson, Baker & Co., Detroit, and procured from Reedy & Groshaw, 116 Clifford St., Detroit. Zinc oxide 18.2%. Does not contain sufficient zinc oxide.

Detroit, Mich., Sept. 1. 1914.

Sugar Beet Factories:

As the Dairy & Food Department has jurisdiction over the weighing and taring of sugar beets, we will this fall start testing scales on which beets are weighed. When we find a scale which will not weigh correctly, a condemning tag will be attached to same, undoubtedly resulting in considerable criticism of the sugar factory owning and operating the scale. The factories can avoid all this by testing their own scales. I

am going to give you the test I shall apply to scales so that you can test your own and fix them so that they will be correct and avoid the criticism and also the trouble you will be put to to fix your scales when in use during the weighing of beets.

In the first place, you should see that the planks on the platform of the scales do not bind anywhere. Then balance your scales and if possible put on a loaded wagon or automobile or whatever other heavy weight is handy, for it gives the scale a much better test to get on as heavy a load as possible while testing. Get the weight of wagon or auto with weights off, then put on not less than 1,000 pounds of weights and move them from corner to corner, weighing them on each corner of the scale and in the center. If the weights vary more than $7\frac{1}{2}$ pounds from corner to corner, the scale is incorrect and will be condemned.

The sensitiveness of the scale will also be taken into consideration. The term "sensibility weight" is defined as that amount of weight added to or deducted from the scale sufficient to break and turn the beam from its position at equilibrium to a stop at either side. If the poise can be moved on the beam of the scale 5 pounds forward before the beam rests on bottom trig loop or pushed back more than 5 pounds before beam touches the top trig loop, the scale will be condemned.

SOME POINTERS YOU SHOULD OBSERVE.

See that sufficient pit is made under the scale so that when the dirt falls through the platform and accumulates the working parts of the scale will not come in contact with it. There should be at least 12 feet of straight way on either side of the scale on the same level as the platform so as to avoid unnecessary strain on the scale when the horses are pulling the load on. See that all levers, rods and beams are either level or in plumb and also see that the frame work is in good condition and that the bolts are not pulling through the wood and that the foundation is good.

BURR B. LINCOLN,
Deputy Dairy & Food Commissioner.

Lansing, Mich., Sept. 25, 1914.

To the Board of Supervisors:

One year ago I called your attention to the fact that under Act No. 168, Public Acts of 1913, you had the authority to appoint a Sealer of Weights and Measures for your county. This notice was sent to the Boards of Supervisors of all the counties in the state and during the year the following counties appointed County Sealers: Washtenaw, Ontonagon, Grand Traverse, Alger, St. Clair, Bay, Alpena, Iosco, Menominee and Chippewa.

Under the Weights and Measures Law above referred to, this department's duty is to supervise the operations of County and City Sealers. While the department may test individual weights and measures through the state, it is not compelled to by law and it would be impossible for us to test all the weights and measures and scales in the state. That is clearly the duty of a local officer. Counties that have had County Sealers have received in the short time that they have had the law in

operation, inestimable benefits. These sealers have found that something like 40% of the scales examined were incorrect and our investigations show that this condition undoubtedly prevails in every county in the state. When we consider the immense amount of money that is involved in all business transactions made through weights, measures and scales—when we consider the farmer sells his produce by weight or measure and nearly everything he buys he buys in the same manner, it would seem that the farmer member of the Board of Supervisors would see the vast advantage that would come to him in having just weights and measures.

I am therefore again calling your attention to this law and again asking your Board at its coming session to appoint a County Sealer of Weights and Measures. The law provides that if deemed advisable you may appoint your County Sealer with the City Sealer in your County if there is one. It also provides that two or more counties may join in appointing a county sealer. The equipment necessary for a sealer does not exceed \$300 and many counties have a partial equipment on hand. In many counties a Deputy Sheriff or other officer whose time is not fully engaged, may be made County Sealer at a small salary. I trust that at the coming session your county will take action and place yours in line with the counties above mentioned.

JAMES W. HELME,
State Dairy & Food Commissioner,
Ex Officio Supt. Weights & Measures.

SCALES EXAMINED DURING THE MONTHS OF SEPTEMBER AND OCTOBER, 1914.

Name of firm.	Location.	Sealed.	Condemned.	Adjusted.
Martin Chopp.....	Ahmeek.....	1	1	
Glass Bros.....	Ahmeek.....	1	1	
J. A. Hamilton.....	Ahmeek.....	1		
Morgan & Grierson.....	Ahmeek.....		2	
E. C. Carrington.....	Albion.....	1	2	
Frank E. Clark.....	Albion.....	5	1	
Howard Meat Co.....	Albion.....		1	
Talmage & Bauer.....	Albion.....	2		
Wochholz & Gress.....	Albion.....	1	1	
J. P. Peterman.....	Allouez.....	1	1	
Bert. Eckert.....	Alma.....		1	
Ed. Beney.....	Bellaire.....		2	
Wm. N. Nutt.....	Bellaire.....		3	
E. J. Potter.....	Bellaire.....		1	
John R. Bennett.....	Copper City.....	1		
Erlandson Bros.....	Copper City.....	1		
Aug. Kohn.....	Copper City.....	1		
Wm. Stima.....	Copper City.....	1	1	
E. Sasin.....	Detroit.....			1
A. Weiss.....	Detroit.....		1	
Geo. W. Winget.....	Ithaca.....		1	
A. Hughes.....	Jackson.....		1	
Wm. Maxwell.....	Kalamazoo.....		1	
J. C. Dent.....	Lapeer.....		2	
A. Barsanti.....	Laurium.....	1		
Cloutier Bros. & Co.....	Laurium.....	1		
A. Elster.....	Laurium.....	1		
Kerman Ervasti.....	Laurium.....	1		
John K. Finlayson.....	Laurium.....	1		
James Galletero.....	Laurium.....	1		
Gourd Bros.....	Laurium.....		1	
Italian Cooperative Co.....	Laurium.....	1		
F. H. Lantz & Co.....	Laurium.....	1	1	
Simon Lefebvre.....	Laurium.....	2		
Bat Maria.....	Laurium.....		1	
Nels Nelson.....	Laurium.....		1	
Niemela & Sons.....	Laurium.....	2	1	
Jos. Pawlicki.....	Laurium.....	1		
W. J. Reynolds.....	Laurium.....	1	1	
C. W. Ryckman.....	Laurium.....	2	1	
Salicetti & Carbonatti.....	Laurium.....	2		
Chas. Salotti.....	Laurium.....	1		
Mat Samida.....	Laurium.....	1		
Schnellar & Co.....	Laurium.....	2		
John E. Standell.....	Laurium.....	2		
Joseph Swykert.....	Laurium.....	3		
Paul Pinetti.....	Laurium.....	1		
Jacob Torkkola.....	Laurium.....	1		
James Torresano.....	Laurium.....		1	
Johnson Vivian, Jr. & Co.....	Laurium.....	4		
Johnson Vivian, Jr. & Co.....	Laurium.....	1		
E. S. White.....	Laurium.....	1		
Mason Elevator Co.....	Mason.....		1	
J. P. Smith.....	Mason.....		1	
Phillips & Son.....	Millford.....		1	
Foley Bros.....	Mohawk.....	2		
Peterman Stores Co., Inc.....	Mohawk.....	3	1	
Burns & Shampine.....	Munising.....		1	
Munising Leather Co.....	Munising.....		1	
Harper Bros.....	Muskegon.....		3	
L. A. Barnes.....	Northport.....		1	
W. F. Gill.....	Northport.....		1	
John Bros.....	Northport.....		2	
Kehl Bros.....	Northport.....		2	
D. H. Scott.....	Northport.....		1	

SCALES EXAMINED, SEPTEMBER AND OCTOBER, 1914—*Concluded.*

Name of firm.	Location.	Sealed.	Condemned.	Adjusted.
John E. Anderson.....	Norway.....		2	
A. Ersparmer.....	Norway.....		2	
Mrs. F. Heyden.....	Norway.....		1	
Frank Meyer.....	Norway.....		1	
J. C. Wickstrom.....	Norway.....		1	
Michigan Sugar Co.....	Omer.....	1		
Omer Mill & Elevator Co.....	Omer.....	2		1
G. T. Greene.....	Oxford.....		1	
Chas. Burroughs.....	Traverse City.....		1	
Emil Buck.....	Traverse City.....		1	
W. H. Darrow.....	Traverse City.....		1	
O. Marinelli.....	Vulcan.....		2	

MEASURES EXAMINED DURING THE MONTHS OF SEPTEMBER AND OCTOBER, 1914.

Name of firm.	Location.	Sealed.	Condemned.	Adjusted.
Morgan & Grierson	Ahmeek	4		
E. C. Carrington	Albion		3	
Frank E. Clark	Albion		6	
Wochholz & Gress	Albion		5	
J. P. Peterman	Allouez	2	2	
L. N. Baker	Alma		4	
B. W. Ellison	Alma		5	
Miller Bros.	Alma		2	
F. J. Patee	Alma		2	
L. E. Rether	Alma		2	
Otto Sanderhoff	Alma		5	
Bay Shore Mercantile Co	Bay Shore		4	
Albert Bath	Detroit		4	
Louis Bickend	Detroit		1	
Wm. Boyd	Detroit		4	
Aug. Brandish	Detroit		3	
M. W. & J. Dinam	Detroit		2	
Eastern Market	Detroit		350	
Franks & Briggs	Detroit		4	
John Gilbert	Detroit		2	
D. M. Linehan	Detroit		5	
J. T. McGrogan	Detroit		6	
Ed. Neumann & Co	Detroit		7	
Tony Orlando	Detroit		3	
K. W. Raleigh	Detroit		5	
E. Sassin	Detroit		5	
Carl Schmidt	Detroit		5	
E. Sellgman	Detroit		2	
Max Simons	Detroit		4	
L. P. Sweetwine	Detroit		4	
Elsdore Vinegard	Detroit		1	
Western Market	Detroit		100	
C. E. Baughman	Dowagiac		4	
Bonnell & Harter	Dowagiac	2	4	
R. E. Morse	Dowagiac	1	2	
Pugsley & Squires	Dowagiac	1	2	
Lee M. Ranabottom	Dowagiac		1	
Boyd Redner & Son	Dowagiac		4	
Smith & Carlisle	Dowagiac		3	
T. F. Welsh	Dowagiac		3	
P. T. Hull	East Tawas		1	
H. E. Lewis	Ithaca		7	
Henry McCormick	Ithaca		2	
A. E. Pirney	Ithaca		7	
James Rigney	Ithaca		2	
Yost & Hamilton	Ithaca		1	
B. G. Champlin & Son	Jackson	3	3	
Geo. Conger	Jackson		4	
Geo. S. Cruger	Jackson		2	
F. L. Hopkins	Jackson		1	
Geo. McCann	Jackson		6	
Wm. Maxwell (Water St.)	Kalamazoo		4	
Wm. Maxwell (Burdick St.)	Kalamazoo		3	
A. Barsanti	Laurium		1	
A. Elster	Laurium	3		
John K. Finlayson	Laurium	3		
Italian Cooperative Co.	Laurium	1	1	
Simon Lefebvre	Laurium	1		
C. W. Ryckman	Laurium	2		
Chas. Salotti	Laurium	1		
John E. Standell	Laurium		1	
Jacob Torkkola	Laurium	2	2	
Johnson Vivian, Jr. & Co	Laurium	5		
Hasper Bros.	Muskegon		3	
Champion Bros.	Niles	1	5	

MEASURES EXAMINED, SEPTEMBER AND OCTOBER, 1914.—*Concluded.*

Name of firm.	Location.	Sealed.	Condemned.	Adjusted.
D. H. Dembury	Niles .....	.....	3	.....
Hendershott & Pears	Niles .....	.....	3	.....
H. B. Laberteaux	Niles .....	.....	5	.....
Moore Grocery Co.	Niles .....	.....	2	.....
Schmidt Meat Co.	Niles	1	5	.....
John Soule	Niles .....	.....	2	.....
Lyman & Walsh	Niles .....	.....	4	.....
E. E. Woodford	Niles .....	.....	10	.....
Orville S. Young	Niles .....	.....	6	.....
W. H. Darrow	Traverse City .....	.....	1	.....

WEIGHTS EXAMINED DURING THE MONTHS OF SEPTEMBER AND OCTOBER, 1914.

Name of firm.	Location.	Sealed.	Condemned.	Adjusted.
J. A. Hamilton.....	Ahmeek.....	5		
John R. Bennett.....	Copper City.....	2		
Aug. Kohn.....	Copper City.....	6		
John Galletero.....	Laurium.....	4		
Joseph Pawliski.....	Laurium.....	4		
Mat Samida.....	Laurium.....	6		
John E. Strandell.....	Laurium.....	10		
Jos. Swykert.....	Laurium.....	4		
Johnson Vivian, Jr. & Co.....	Laurium.....	14		
Johnson Vivian, Jr. & Co.....	Laurium.....	3		
E. S. White.....	Laurium.....	3		
Omer Mill & Elevator Co.....	Omer.....	5		

YARD STICKS, COUNTER MEASURES, AND TAPES—SEPTEMBER AND OCTOBER, 1914

Name of firm.	Location.	Correct.	Incorrect.	Adjusted.
Bay Shore Merc. Co.....	Bay Shore.....		3 yard sticks.....	
A. E. Frank.....	Bellaire.....		6 counter measures.....	
A. E. Goldstuck.....	Bellaire.....		7 tapes & measures.....	
Johnson Vivian, Jr. & Co.....	Laurium.....		4 measures.....	4

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Eaton County, September:					
Clover Leaf Creamery.....	Charlotte.....	W. T. Leonard & Son.....		184,608	Good..
Smith Cream Station.....	Charlotte.....	A. M. Smith.....			Good..
Towar's Cream Station.....	Charlotte.....	Towars Wayne Co. Cy.....			Good..
Dickinson County, September:					
Norway Creamery Co.....	Norway.....	F. Copeland.....		46,364	Good..
Ingham County, September:					
Lealie Butter Co. Creamery.....	Lealie.....	E. J. Kniebecker.....		139,000	Good..
Iosco County, September:					
Iosco Creamery Co.....	Whittemore.....	M. Jensen.....		150,000	Good..
Cream Station.....	Emery Junction.....	W. H. Pringle.....		5,000	Good..
Jackson County, September:					
Colvin Dairy Co.....	Jackson.....	C. C. Colvin.....			Good..
J. A. Fowler Creamery.....	Jackson.....	J. A. Fowler.....	869,000	39,618	Good..
Jackson City Creamery Co.....	Jackson.....	Jackson City Cry.....		389,618	Good..
St. Clair County, September:					
Medina County Cry Co., Cream Sta....	Capac.....	Medina Co. Cry. Co.....			Good..
Spencer & Hows Cream Station.....	Capac.....	Spencer & Hows.....			Good..
Ogemaw Co., September:					
Michigan Creamery Co.....	Prescott.....	J. C. Wineburge.....			Good..
Vasold Bros. Cream Station.....	Prescott.....	J. Weishuhn.....			Good..
Washtenaw County, September:					
Cream Station.....	Chelsea.....	J. B. Cummings.....			Good..
Foster Milk Depot.....	Foster.....	Towar's Wayne County Creamery Co.....			Good..
Towar's Cream Station.....	Chelsea.....	Towar's Wayne County Creamery Co.....			Good..
Wayne County, September:					
Dearborn Milk Depot.....	Dearborn.....	Tony Schlaff.....	1,215,000		Good..
Inkster Milk Depot.....	Inkster.....	Detroit Cry Co.....			Good..
Towar's Milk Depot.....	Gibraltar.....	Towar's Wayne County Creamery Co.....			Good..
Towar's Milk Depot.....	Dearborn.....	Towar's Wayne County County Creamery.....			Good..
Wayne Creamery.....	Wayne.....	Howard Johnson.....	889,613		Good..
Bay County, October:					
Fisherville Skimming Station.....	Auburn.....	C. C. Mrozinski.....			Good..
Benzie County, October:					
Crystal Spring Creamery.....	Bulah.....	C. A. More.....		25,000	Good..
Berrien County, October:					
Barlow Bros. Creamery.....	St. Joe.....	J. Barlow.....	2,850,000		Good..
Berrien Centre Elgin Creamery.....	Berrien Center.....	Berrien Cen. Elgin Cry. Co.....		68,000	Good..
Hinchman Creamery.....	Hinchman.....	A. C. Miller.....		50,195	Bad..
Niles Creamery Co.....	Niles.....	Niles Creamery Co.....		120,000	Good..
Pipestone Creamery.....	Eau Claire.....	Geo. Zetter.....	2,860,000	95,619	Good..
St. Joe Valley Creamery.....	Buchanan.....	J. C. Roe.....			Good..
Twin City Creamery.....	Benton Harbor.....	W. H. Parks.....	1,500,000		Good..
Watervliet Creamery Co.....	Watervliet.....	W. M. Baldwin.....	2,064,048	105,237	Good..

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skin milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean... Clean... Clean...	Good...	.....	.....	Clean...	Clean...	.....	Good...	Clean...	Good...	Good...	.....	90
Good...	.....	.....	.....	.....	.....	.....	.....	.....	Good...	Good...	.....
Clean...	Good...	.....	.....	.....	Clean...	.....	Good...	Clean...	Good...	Good...	.....	90
Good...	.....	.....	.....	.....	Good...	.....	.....	Good...	Good...	Good...	.....	91
Clean... Clean... Clean...	Good... Good...	Good...	Clean... .....	..... .....	Clean... Clean... Clean...	..... ..... .....	Good... Good... Fair...	Clean... Clean... Clean...	Good... Good... Good...	Good... Good... Good...	Fair... Good... .....	..... 90
Clean... Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clean...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	Good...	.....	.....	Clean...	Clean... Clean...	.....	.....	.....	Good...	Good...	Good... Good...	.....
.....	.....	.....	.....	.....	Good...	.....	.....	.....	.....	.....	Good...	.....
.....	Good...	Clean...	Clean...	Clean...	Clean... Clean...	.....	Fair...	.....	Good...	Good...	Good... Very gd	.....
Good...	.....	.....	.....	.....	Good...	.....	Good...	Good...	Good...	Good...	.....	90
.....	Clean...	Clean...	.....	.....	Good...	.....	Good...	.....	Good...	Good...	Fair...	.....
Clean... Clean... Clean... Clean... Clean... Clean... Clean...	Good... Clean... Good... Good... Good... Clean...	..... Clean... Clean... Clean... Clean...	..... Clean... Clean... Clean...	..... Clean... Clean... Clean...	Clean... Clean... Clean... Clean... Clean... Clean...	..... Clean... Clean... Clean... Clean...	Good... Fair... Good... Good... Good... Good...	Clean... Clean... Clean... Clean... Clean... Clean...	Good... Good... Good... Good... Good... Good...	Good... Good... Good... Good... Good... Fair...	..... ..... ..... Good... Good... Fair...	..... 91 90 90 94 93 96

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Clare County, October:					
Geo. Langworthy Cream Station.....	Clare.....	G. Langworthy.....			Good..
Michigan Produce Co.....	Clare.....	Individual.....			Good..
Michigan Produce Co. Cream Station..	Clare.....	J. Roe.....			Good..
Michigan Produce Co. Cream Station..	Clare.....	M. J. Hutchins.....		10,000	Good..
Michigan Produce Co. Cream Station..	Clare.....	P. Dunley.....			Good..
Michigan Produce Co. Cream Station..	Farwell.....	B. Sprig.....			Good..
J. L. Oliver Cream Station.....	Clare.....	J. L. Oliver.....		10,000	Good..
Eaton County, October:					
Eaton Rapids Creamery.....	Eaton Rapids.....	A. M. Smith Co.....		401,000	Good..
Olivet Cream Station.....	Olivet.....	Towar's Cry. Co.....			Good..
Cream Station.....	Olivet.....	A. M. Smith.....			Good..
Towar's Cream Station.....	Eaton Rapids.....	Towar's Cry. Co.....			Good..
Genesee County, October:					
Montrose Home Creamery.....	Montrose.....	W. G. Herman.....		75,000	Good..
Gratiot County, October:					
Breckenridge Creamery.....	Breckenridge.....	F. Eldridge.....		250,000	Good..
Huron County, October:					
Medina County Creamery Co.....	Elkton.....	F. Elder.....		15,000	Poor..
Kent County, October:					
Boyland Creamery.....	Grand Rapids.....	J. Boyland.....		400,000	Good..
Lapeer County, October:					
Imlay City Creamery.....	Imlay City.....	C. Withey.....			Fair..
Lenawee County, October:					
Britton Cream Station.....	Britton.....	Towar's Creamery Co..			Good..
Macomb County, October:					
Chesterfield Skimming Station.....	Chesterfield.....	Chesterfield Creamery. Co.....	2,379,000		Fair..
Disco Skimming Station.....	Disco.....	Utica Coop Cry. Co.....			Good..
Macomb Skimming Station.....	Macomb.....	J. Gatz.....	486,000		Good..
Utica Cooperative Creamery.....	Utica.....	Utica Coop. Cry. Co.....	3,860,459	220,819	Good..
Utica Milk Depot.....	Utica.....	Detroit Creamery Co.....			Good..
Waldenburg Skimming Station.....	Waldenburg.....	Utica Coop. Cry Co.....	1,619,000		Good..
Yates Milk Depot.....	Yates.....	Frank Yates.....			Good..
Manistee County, October:					
Copemish Creamery Co.....	Copemish.....	M. Conklin.....		65,000	Good..
Missaukee County, October:					
Durand Cry. Co. Cream Station.....	McBain.....	T. D. Clymer.....			Good..
Cream Station.....	McBain.....	Swift & Co.....			Good..
Menominee County, October:					
Nadeau Bros. Creamery.....	Nadeau.....	Nadeau Bros.....			Good..
Stephenson Creamery.....	Stephenson.....	H. E. Jahnke.....		53,000	Good..
Wallace Creamery.....	Wallace.....	J. H. Noppenberg.....			Good..

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good...							Good...					
Good...												
Good...												
Good...												
Good...												
Clean...	Good...			Good...	Clean...		Good...	Clean...	Good...	Good...		90
Clean...												
Clean...												
Clean...												
Good...	Good...			Good...	Good...		Good...	Fair...	Good...	Good...		90
Good...	Good...			Good...	Good...		Good...	Good...	Good...	Good...		92
Good...				Good...	Good...		Good...	Fine...	Good...	Good...		91
Good...	Fair...			Good...	Good...		Good...	Good...	Good...	Good...		91
Clean...												
Clean...	Clean...	Fair...	Clean...		Clean...	Clean...	Fair...		Good...	Good...	Fair...	
Clean...	Clean...	Clean...	Clean...		Clean...	Clean...	Good...		Good...	Good...	Good...	
Clean...	Clean...	Clean...	Clean...		Clean...	Clean...	Fair...		Good...	Good...	Good...	
Clean...	Good...	Clean...	Clean...		Clean...	Clean...	Clean...	Clean...	Good...	Good...	Fair...	95
Clean...	Good...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...		Good...	Good...	Good...	
Good...					Fine...		Good...	Good...	Good...	Good...		91
Good...										Good...		
Good...												
Good...					Good...			Good...				94
Good...					Good...			Good...				90
Good...					Good...			Good...				91

STATE OF MICHIGAN.

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Monroe County, October:					
Beckham Creamery	Newport	C. W. Beckham		1,819,912	Good...
Dundee Skimming Station	Dundee	Towar's Creamery Co.			Good..
LaSalle Skimming Station	LaSalle	Monroe Butter & Ch'se Co.	1,318,000		Good...
Monroe Butter & Cheese Co.	Monroe	J. C. Sterling	1,847,962	63,815	Good...
South Rockwood Butter & Cheese Co.	South Rockwood	Jas. Harris	1,409,118	59,012	Good...
Stony Creek Skim Station	Stony Creek	J. C. Sterling	1,480,000		Good...
Milk Station	Newport	Towar's Creamery Co.			Good..
Montcalm County, October:					
L. Barber & Co.	Edmore	L. Barber		350,000	Good...
Oscoda County, October:					
Cream Station	Tustin	L. Barber			Good...
Cream Station	Tustin	Boylard Creamery Co.			Good...
Cream Station	Marion	Rexford Bros.			Good...
Cream Station	Ashton	J. C. Halladay			Good...
Leroy Creamery	Leroy	Wm. A. Conry			Good...
Cream Station	Marion	A. B. McLeod			Good...
Cream Station (Sanitary Milk Co.)	Tustin	J. M. Robbins			Good...
Cream Station	Ashton	Swift & Co.			Good...
Cream Station	Marion	Swift & Co.			Good...
Cream Station	Tustin	Swift & Co.			Good..
Ottawa County, October:					
Allendale Creamery	Allendale	Almer Smeed		125,000	Good...
Cooperative Creamery	Coopersville	P. VanAlsburg		300,000	Good...
Crystal Creamery	Coopersville	L. J. Hinken		160,000	Good...
Cream Station	Eastmanville	Gd Rapids Cry. Co.		15,000	Good...
Cream Station	Dennison	Gd. Rapids Cry. Co.			Good...
Skimming Station	Nunica	Cooperative Cry. Co.			Good...
Nunica Creamery Co.	Nunica	J. L. Hinken		100,000	Good...
Shiawassee County, October:					
Cream Station	Easton	F. B. Crikmore			Good...
Cream Station	New Lothrop	Durand Cry. Co.			Good...
Cream Station	New Lothrop	Maple Grove Cry			Good...
Cream Station	Laingsburg	Mich. Creamery Co.		4,000	Good...
Cream Station	New Lothrop	Montrose Home Cry			Good...
Cream Station	Easton	Frank Ross		10,000	Good...
Cream Station	New Lothrop	Standard Butter Co.			Good...
Cream Station	Laingsburg	Swift & Co.		5,000	Good...
Cream Station	Laingsburg	Towar's Wyne Co. Cr.		8,000	Good...
Tuscola County, October:					
P. W. Howell Cream Station	Akron	P. W. Powell			Good...
Washtenaw County, October:					
Milan Cream Station	Milan	Medina County Cry Co			Good...
Riverside Creamery	Milan	W. F. Allen	4,218,000		Fair...
Cream Station	Milan	Towar's Cry. Co.			Fair...
Wayne County, October:					
Lyman Johnson Creamery	Wyandotte	L. Johnson	850,000	10,500	Good...

31

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skin milk tank.	Pipings.	Churn.	Engine.	Boiler.		
Clean... Clean...	Clean... Good...	Clean... Clean...	Clean... Clean...	Clean... Clean...	Clean... Clean...	Clean... Clean...	Fair... Good...	Good... Good...	Good... Good...	Good... Good...
Clean... Clean... Clean... Clean...	Good... Clean... Clean... Clean...	Clean... Clean... Clean... Clean...	Clean... Clean... Clean... Clean...	Clean... Clean... Clean... Clean...	Clean... Good... Clean... Clean...	Clean... Clean... Clean... Clean...	Good... Good... Good... Good... Clean... Clean...	Good... Good... Good... Good...	Good... Good... Good... Good...	Good... Good... Good... Fair... 94... 94...
Good...	Good...	Fine...	Good...	Fine...	Good...	Good...	90...
Good... Good... Good... Good...	Good...	Good...	Good...	Good...	New...	90...
Good... Good... Good...
Good... Good... Good...	Good... Good... Good...	Good...	Good... Good... Good...	Good...	Good... Good... Good...	Good...	Good... Good... Good...	Good... Good... Good...	Good... Good... Good...	Good... Good... Good...	Good... Good... Good...	92... 91... 92...
Good... Good... Good...	Good...	Good...	Good...	Good...	Good...	Good...	91...
.....
.....
Clean... Clean... Clean...	Good...	Clean...	Clean...	Clean...	Clean...	Fair...	Good...	Good...	Good...
.....	Good...	Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese, pounds.	Style.
Saginaw County, September:					
Blackmar Cheese Co.....	Blackmar.....	Ben Glasser.....	1,000,000	100,000	Soft Michigan.....
Tuscola County, September:					
Arbela Cheese Co.....	Millington.....	Chas. Hustler.....			Soft Michigan.....
Stone Road Cheese Factory.....	Millington.....	J. C. Keineth.....			Soft Michigan.....
Bay County, October:					
Monitor Cheese Factory.....	Bay City.....	Leroy Reynolds.....	500,000	50,000	Soft Michigan.....
John Nuffer Cheese Factory.....	Auburn.....	J. Nuffer.....	200,000	20,000	Soft Michigan.....
So. East Williams Cry. & Ch. Fac.	Freeland.....	Henry Sturm.....			Soft Michigan.....
Gratiot County, October:					
Elwell Cheese Co.....	Elwell.....	Miner & Colister.....	600,000	60,000	Soft Mich. & Ched... ..
Miner Cheese Co.....	Wheeler.....	John Miner.....	500,000	50,000	Soft Michigan.....
Huron County, October:					
Rice Bros. Cheese Co.....	Elkton.....	S. B. Rice.....	1,000,000	100,000	Soft Michigan.....
Monroe County, October:					
Lulu Cheese Factory.....	Lulu.....	Wm. F. Smith.....	219,000	22,312	Soft Michigan.....
Saginaw County, October:					
Chapin Cheese Co.....	Chapin.....	Geo. Peters.....	1,500,000	150,000	
Monitor Cheese Co.....	Tittabawassee.....	C. Voss.....			Soft Michigan.....
Taymouth Cheese Co.....	Birch Run.....	G. Diffin.....	500,000	50,000	Soft Michigan.....
Akron Cheese Factory.....	Akron.....	J. A. Gardham.....			Soft Michigan.....

CHEESE FACTORIES.

Cheesemaker.	Sanitary surround- ings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet tank.	Boiler.		
Ben Glasser.....	Good...	2, good...	Gang...		Fair...		8 H. P...	Fine...	
Chas. Hustler.....	Good...	2, good...	2, gang...		Fair...		8 H. P...	Good...	
Claud Kriener.....	Good...	2, good...	2, gang...		Fair...		10 H. P...	Good...	
Ervin Kokir.....		1.....	1, gang...		Fair...		6 H. P...	Fair...	
J. Nuffer.....	Good...	1, good...	1, gang...		Good...			Fair...	
H. Sturm.....	Fair...	1, good...	1, gang...		Good...		15 H. P...	Good...	
Arthur Roff.....	Good...	1, good...					6 H. P...	Good...	
G. Woodeck.....	Good...	1, good...			Good...		6 H. P...	Good...	
S. B. Rice.....	Fair...	2, good...	2, gang...	Goslin...	Fair...		25 H. P...	Fair...	
Wm. F. Smith.....	Good...	1, clean...			Fair...		10 H. P...	Good...	
G. Peters.....	Poor...	2, fair...	2, gang...	Goslin...	Poor...		10 H. P...	Fair...	
E. Bieberich.....	Good...	1, good...	2.....		Fair...		12 H. P...	Good...	
J. K. Shreve.....		1, fair...	1, gang...		Fair...		8 H. P...	Fair...	
J. A. Gardham.....	Good...	2, good...	1, gang...		Fair...		10 H. P...	Fine...	

STATE OF MICHIGAN.

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employes and manner of milking.	Handling of milk.	Total.	Quality of milk.				
							Sanitary surroundings.	Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Adrian, September:											
W. R. Frances.....	80	97	83	95	77	432	Medium.....				
Milford, September:											
C. H. Foote.....	85	93	85	92	93	448	Medium.....				
William Robson.....	85	93	70	89	75	412	Medium.....				

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1914

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

JAMES W. HELME.....COMMISSIONER
BURR B. LINCOLN.....DEPUTY COMMISSIONER
FERN L. SHANNON.....STATE ANALYST
M. J. SMITH.....CHIEF CLERK
A. R. TODD.....DRUG ANALYST

Lansing, Mich., Nov. 21, 1914.

To Manufacturers and Packers of Syrups and Molasses and to Wholesalers, Brokers and others dealing therein :

It has been brought to the department's attention that pails, cans and other containers in which syrups and molasses are sold, are now labelled in terms of pounds, and ounces avoirdupois instead of in terms of gallons, quarts and pints, liquid measure.

It was the department's contention that this method of labelling is in direct contravention of Michigan's Net Weight Law and the Attorney General's interpretation of Section 3a, Act No. 162, Public Acts of 1913, in its application to syrups and molasses was requested. The department is in receipt of the Attorney General's opinion and it is therein held that syrups and molasses shall be labelled in terms of gallons, quarts and pints, liquid measure.

This department will not contest the sale of such syrups and molasses labelled in terms of pounds and ounces as are now in the hands of wholesale and retail grocers within the state but all future shipments into the state are required to be labelled in conformity with the provisions of the act as interpreted by the Attorney General of this state, to-wit, in terms of gallons, quarts and pints, liquid measure.

The quantity of the contents shall be marked in terms of the largest unit contained in the package.

Very truly,
JAMES W. HELME,
State Dairy and Food Commissioner.

LIGHTWEIGHTS, HEAVYWEIGHTS AND SAP.

BY JAMES W. HELME.

Dr. Lewis Baker of Ohio has joined the Mae Martin class in Michigan and through advertisements in the leading dailies is answering all correspondents, mythical and otherwise, with remedies for most of the diseases that human flesh is heir to.

In a recent ad "Kit" writes she is in danger of qualifying for a place in a side show as a living skeleton and becoming a real kitten and she suffers from headaches.

The Doctor advises a "thorough course of Hyponuclane Tablets." Our chemist has examined Hyponuclane Tablets and was unable to identify any active drug or drug principles.

These tablets when placed in a 3% solution of Hydrochloric Acid (which is the natural acid of the stomach) required over 96 hours to dissolve. It looks like "Kit" might trade off her headaches for stomach aches. Ninety cents is the price of sixty three-grain tablets.

"Miss T. R." is evidently afraid she may qualify as the fat woman in the side show. She confesses to the modest weight of 190 pounds and still gaining. She wants the Doctor to carve, medically, 30 pounds from her robust form. The Doctor advises the regular use of 5 grain Arbolene Tablets. Analysis of these tablets show that the active principle is the Thyroid Gland of the sheep. The National Dispensatory says that Thyroid Gland when used in quantities sufficient to cause decrease in weight often causes ill health, changes the skin to a sallow hue and also causes wrinkling of the skin. If "Miss T. R." wishes to swap her 30 lbs. of healthy flesh for a skin like a Chinaman and wrinkles like a Merino sheep, thyroid gland will probably have a tendency to produce that result. But just take it from us, "Miss T. R.," that if you wish to reduce flesh, just stop eating. Any Arctic explorer can give testimonials to that effect.

"Maud" has got a real affliction in a bad case of catarrh. Her nose runs and her breath smells until she is obliged to eschew all osculatory performances with any gentleman callers. But the Doctor has the stuff for "Maud," the afflicted. All she has to do is to dissolve half a teaspoon of Villane powder in a pint of warm water two or three times a day and "Presto Change," back comes health and suitors and the pocket handkerchief can be used for a napkin.

Our chemist says that Villane powders on examination were found to be composed of common salt 40%, Baking Soda 35%, Borax 15% and Salicylate of soda 10%. Selling price 50c. Estimated cost 2c. Mix your own dope, "Maud," and for 50c you will have a barrel full of solution, enough to cure all the running noses in an average sized village—provided it works.

Special Bulletin.

Dec. 9th, 1914.

**RELATIVE TO CREAM TEST SCALES AND BABCOCK TEST
GLASS WARE.**

Notice has come to this Department that the idea is prevalent throughout the state that this Department has issued rules and regulations relative to cream test scales and Babcock test glass ware.

The purpose of this bulletin is to advise you that no such regulations as yet have been made and that none will be issued for several months. However, in view of the fact that this Department is working on these specifications and will issue same in due time in compliance with our weights and measures law, we feel that users of scales as above referred to and Babcock glass ware should be advised that the Department will furnish anyone, upon request, with the probable rules and specifications that the Department will issue, to use as a guidance in case it becomes necessary for anyone to purchase any new glass ware or scales prior to the time the specifications will be issued, so as to avoid the possibility of having them condemned later on. While it is altogether likely that as this matter relates to Babcock test glass ware, the Federal specifications will be followed largely. The same thing holds true as to scales. However, this should not be taken for granted and in all cases would advise that this Department be consulted before buying any new scales or glass ware, so as to avoid the possibility of stocking up with scales or glass ware that will not comply with specifications that will be issued by this Department.

JAMES W. HELME,
State Dairy and Food Commissioner.

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of November and December, 1914:

Adrian, Albion, Allegan, Allenton, Alma, Almont, Alpena, Ann Arbor, Athens, Bad Axe, Bancroft, Bark River, Battle Creek, Bay City, Bellaire, Bell Branch, Balsay, Benton Harbor, Berville, Bessemer, Birch Run, Brent Creek, Bridgeport, Brighton, Bronson, Brown City, Burnside, Burt, Cadillac, Calumet, Canton, Capac, Casnovia, Cassopolis, Central Lake, Charlevoix, Charlotte, Cherryhill, Chesaning, Clifford, Climax, Clio, Cohoctah, Coldwater, Collins, Coloma, Cooks Mills, Cornell, Corunna, Craig, Cross Village, Croswell, Davison, Dayton, Demmon, Detroit, Dowagiac, Doyle, Durand, East Dayton, East Jordan, Erie, Escanaba, Farmington, Fenton, Fergus, Flint, Fosters, Fowlerville, Fremont, Garden, Garfield, Gaylord, Gladstone, Glendora, Goodrich, Grand Haven, Grand Ledge, Grand Rapids, Grayling, Greenbush, Greenville, Gustin, Hanover, Harbor Beach, Harrisville, Haslett, Hastings, Henderson, Her-

mansville, Holland, Holly, Hopkins, Houghton, Howell, Ida, Imlay City, Ionia, Ironwood, Ithaca, Jackson, Jones, Kalamazoo, Kearsarge, Kent City, Killmaster, Kipling, Lacota, Lake Linden, Lake Odessa, Lansing, Lapeer, Laurium, Lawrence, Levering, Lincoln, Linden, Litchfield, Manistique, Marcellus, Marshall, Martin, Mason, Mayville, Melvin, Merrill, Mikado, Millington, Mitchell, Monroe, Monteith, Montrose, Morrice, Mt. Clemens, Mt. Morris, Muskegon, New Baltimore, New Buffalo, New Hudson, Niles, North Escanaba, Northland, Oak Grove, Olivet, Otsego, Ottawa Lake, Otterburn, Ovid, Owosso, Oxford, Paw Paw, Perry, Petoskey, Pontiac, Portland, Powers, Quincy, Ramsay, Rapid River, Reese, Saginaw, St. Charles, St. Johns, St. Joseph, St. Louis, Saugatuck, Sault Ste. Marie, Sebawaing, Silverwood, Sitka, Sparta, Stevensville, Stockbridge, Sturgis, Thompson, Three Rivers, Traverse City, Valley Center, Verne, Vernon, Vicksburg, Wakefield, Washington, Watson, Wayland, Wayne, White Cloud, Whittemore, Willis, Wixom, Ypsilanti.

PROSECUTIONS.

Since beginning of fiscal year July 1, 1914.

Cases pending July 1, 1914	36
Cases commenced since said date	200

CASES DISPOSED OF.

Before examining magistrates:

Defendants bound over	44
Defendants discharged	16

In trial courts:

Defendants convicted	155
Defendants acquitted	3

Cases pending January 1, 1915	62
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In the case pending for sentence against Oscar Peterson, proprietor of the Cooperative Hotel, Cadillac, charged with serving oleomargarine without displaying sign. November 11, sentence was suspended on payment of \$7.50 costs.

In the case pending for sentence against Frank Cornwell of Cadillac, charged with selling oleomargarine without displaying sign. November 6, sentence was suspended on payment of \$7.50 costs.

In the case pending in recorder's court, city of Detroit, against W. A. Porteous, Mgr. Hay Manufacturing Company, charged with selling salad dressing on which the net weight was incorrectly stated. September 4, 1914, case dismissed.

In the case pending in police court, city of Detroit, against McBride, Earl and Pollard, charged with using saccharine in the manufacture of pop. Case dismissed.

In the case pending in recorder's court, city of Cadillac, against M. Boersina & Sons charged with selling sausage containing cereal in excess of 2%. November 6, defendant entered a plea of guilty. Fined \$15 and costs.

In the case pending in recorder's court, city of Cadillac, against Curtis & Grant charged with selling sausage containing cereal in excess of 2%. November 6, defendant entered a plea of guilty. Fined \$15 and costs.

In the case pending in recorder's court, city of Cadillac, against Harry H. Kingsley charged with selling sausage containing cereal in excess of 2%. November 6, defendant entered a plea of guilty. Fined \$15 and costs.

In the case pending in recorder's court, city of Cadillac, against McCoy & Marcus charged with selling sausage containing cereal without labeling. November 6, defendant entered a plea of guilty. Sentence suspended on payment of \$7.50 costs.

In the case pending in police court, city of Detroit, against the proprietor of the Excelsior Pharmacy, charged with selling tincture iodine not in conformity with the U. S. P. requirements. Case dismissed.

In the case pending in recorder's court, city of Detroit, against Martin Robinson, 517 Hastings St., Detroit, charged with selling camphor liniment not in conformity with legal requirements. November 16, defendant convicted. Fined \$25 and costs.

In the case pending in circuit court, county of Berrien, against Graham O. McOmber, manager Berrien Springs Dispensary Co., charged with the sale of a drug containing morphine and alcohol not legally labeled. Defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in circuit court, county of Bay, against Carl Dehn charged with selling sausage containing an excessive amount of cereal. December 15, defendant convicted. Notice of appeal given.

In the case pending in justice court, village of Gaylord, against Frank Noa, charged with selling adulterated lard. Defendant entered a plea of guilty. Sentence suspended on payment of \$5 costs.

In the case pending in justice court, village of Gaylord, against E. Carr and Son charged with selling adulterated lard. Defendant entered a plea of guilty. Sentence suspended on payment of \$5 costs.

In the case pending in circuit court, county of St. Joseph, against G. A. Royer charged with selling sausage containing excessive cereal. November 9, defendant entered a plea of guilty and was fined \$100 and costs.

In the case pending in police court, city of Muskegon, against Michael Hogan, charged with having an insanitary barn. November 30, defendant convicted. Fined \$15 and costs.

In the case pending in justice court, city of St. Joseph, against John Franklin charged with violation of law pertaining to table grapes. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

In the case pending in justice court, city of St. Joseph, against A. C. Beremal charged with violation of law pertaining to table grapes. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

In the case pending in justice court, city of St. Joseph, against B. J. Eaman charged with violation of law pertaining to table grapes. De-

defendant entered a plea of guilty. Sentence suspended on payment of costs.

In the case pending in justice court, city of St. Joseph, against G. W. Peters charged with violation of law pertaining to table grapes. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

In the case pending in the circuit court, county of Alpena, against August Kannooski charged with selling sausage containing cereal and not stamping same. December 8, defendant acquitted.

In the case pending in circuit court, county of Alpena, against Ed. F. Kramm charged with selling sausage containing an excessive amount of cereal. December 8, defendant convicted. Sentence pending.

In the case pending in justice court, city of Ithaca, against Carl J. Willis charged with violation of sugar beet law. November 10, defendant discharged.

In the case pending in justice court, city of Ithaca, against Ernest Culver charged with violation of sugar beet law. October 26, defendant discharged.

In the case pending in justice court, city of Ithaca, against Nicholas W. Wirebaugh charged with violation of sugar beet law. October 26, defendant discharged.

In the case pending in justice court, city of Saginaw, against E. Wilson Cressey charged with violation of the sugar beet law. Case nolle prossed.

In the case pending in police court, city of Grand Rapids, against Ray Cadwell charged with using excessive cereal in the manufacture of sausage. November 2, defendant entered a plea of guilty. Sentence pending.

In the case pending in justice court, city of Lake Odessa, against E. M. Dorine charged with the sale of adulterated milk. November 20, defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made November 10 in justice court, city of Grayling, against Frank H. Milks charged with selling sausage containing excessive cereal. Bound over to circuit court for trial. Case pending.

Complaint was made November 10 in justice court, city of Grayling, against Chas. Wilcox charged with serving oleomargarine without displaying sign. Bound over to circuit court for trial. Case pending.

Complaint was made November 11 in justice court, city of Gladstone, against P. G. Erickson charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted on payment of costs.

Complaint was made November 11 in justice court, city of Gladstone, against Elof Hansen charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted on payment of costs.

Complaint was made November 11 in justice court, city of Gladstone, against Alex Marshall charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted.

Complaint was made November 11 in justice court, village of Gaylord, against Frank Noa charged with using excessive cereal in the manufacture of sausage. Defendant waived examination and was bound over to the county of Otsego for trial. Case pending.

Complaint was made November 11 in recorder's court, city of Bad Axe,

against William Heaton charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50.85.

Complaint was made November 12 in justice court, village of Millington, against Michael Jakowczyk charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made November 12 in justice court, village of Millington, against Alfred Bell charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$40 and costs.

Complaint was made November 12 in police court, city of Detroit, against F. J. Van Peldt charged with selling cranberries short measure, November 23, defendant convicted. Fined \$25.

Complaint was made December 14 in justice court, city of Manistique, against Oliver Hart charged with selling potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made November 18 in recorder's court, city of Bad Axe, against W. D. Hickroth charged with shipping unclean ice cream cans. Defendant entered a plea of guilty. Fined \$10.50.

Complaint was made November 18 in justice court, city of Hastings, against Wm. Shelhorn charged with the sale of insanitary milk. Defendant entered a plea of guilty and was fined \$36.95 including costs.

Complaint was made November 18 in justice court, city of Hastings, against Roy James charged with the sale of insanitary milk. Defendant entered a plea of guilty. Fined \$34.95 including costs.

Complaint was made November 28 in police court, city of Detroit, against Chas. Moral charged with selling colored oleomargarine for butter. Case pending.

Complaint was made November 28 in police court, city of Detroit, against Thomas M. Faust, proprietor of the White Front charged with selling colored oleomargarine for butter. Case pending.

Complaint was made November 28 in police court, city of Detroit, against C. L. Pixley charged with selling colored oleomargarine. Case pending.

Complaint was made November 28 in police court, city of Detroit, against H. B. Miles charged with selling oleomargarine for butter. Case pending.

Complaint was made November 28 in police court, city of Detroit against Frank Arens charged with selling oleomargarine for butter. Case pending.

Complaint was made November 28 in police court, city of Detroit against W. H. Green charged with selling colored oleomargarine for butter. Case pending.

Complaint was made November 28 in police court, city of Detroit against Fred Raulo charged with selling oleomargarine artificially colored. Case pending.

Complaint was made November 28 in police court, city of Detroit against Wm. Lewis charged with selling oleomargarine artificially colored. Case pending.

Complaint was made November 28 in police court, city of Detroit, against Alex. M. Wright charged with selling oleomargarine artificially colored. Case pending.

Complaint was made November 28 in police court, city of Detroit,

against John B. Sales charged with selling oleomargarine artificially colored. Case pending.

Complaint was made November 28 in police court, city of Detroit, against Detroit Tea & Butter Co., charged with selling renovated butter for dairy butter. Case pending.

Complaint was made December 1 in justice court, city of Sault Ste. Marie, against John W. Agnew charged with not stamping sausage containing cereal. Case dismissed on payment of costs.

Complaint was made December 1 in justice court, city of Sault Ste. Marie, against Frank Campanora charged with selling process butter and not stamping same. Case dismissed on payment of \$17.55 costs.

Complaint was made December 1 in justice court, city of Sault Ste. Marie, against Theo. Paulantis charged with deceptive advertising. Defendant dismissed on payment of costs.

Complaint was made December 1 in justice court, city of Sault Ste. Marie, against H. A. Williams charged with using excessive cereal in the manufacture of sausage. Case pending.

Complaint was made December 1 in justice court, city of Sault Ste. Marie, against Kosto Vasil charged with selling process butter and not stamping same. Case dismissed on defendant paying costs.

Complaint was made December 1 in justice court, city of Sault Ste. Marie, against Fred Bye charged with using excessive cereal in the manufacture of sausage. Defendant dismissed on payment of costs.

Complaint was made December 1 in justice court, city of Sault Ste. Marie, against Isedor Sandelman charged with failure to stamp lard compound. Defendant dismissed on payment of costs.

In seizure proceedings directed against 3,500 gallons of canned pumpkin in storage in the city of Detroit. Charge: Product decomposed and unfit for food. Summons issued. Product destroyed.

Complaint was made December 1 in municipal court, city of Battle Creek, against A. J. Erwin charged with selling camphor liniment not in conformity with the U. S. P. requirements. December 14, defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made December 2 in justice court of Bessemer against Chas. Babicky charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted on payment of costs.

Complaint was made December 2 in justice court of Bessemer against Kulasavicz & Skwor charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted on payment of costs.

Complaint was made December 2 in justice court of Bessemer against Wm. Waters charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted on payment of costs.

Complaint was made December 2 in justice court of Bessemer against L. H. Truettner charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted on payment of costs.

Complaint was made December 3 in justice court, village of White Cloud, against Alfred E. Truman charged with selling sausage containing an excessive amount of cereal. Defendant bound over to circuit court for trial. Case pending.

Complaint was made December 3 in justice court, village of White Cloud, against Thomasma Bros. charged with selling sausage containing an excessive amount of cereal. Bound over to circuit court for trial. December 14, defendant entered a plea of guilty. Fined \$100 and costs.

Complaint was made December 3 in justice court of Three Rivers against James Weightman charged with the sale of rotten eggs. Defendant entered a plea of guilty. Fined \$17.90 costs.

Complaint was made December 3 in municipal court, city of Kalamazoo, against V. D. Lacey charged with selling insanitary milk. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made December 3 in justice court, city of Sault Ste. Marie, against Nick Montsatson, charged with conducting business under insanitary conditions. Defendant dismissed on payment of costs.

Complaint was made December 3 in justice court, city of Sault Ste. Marie, against Christ Granakura charged with conducting business under insanitary conditions. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made December 5 in justice court, city of Sault Ste. Marie, against Geo. K. Booth charged with conducting business under insanitary conditions. Defendant dismissed on payment of costs.

Complaint was made December 7 in justice court of Paw Paw against Fred E. Lull charged with making false representation in packing fruit. December 18, defendant convicted. Fined \$10 and costs.

Complaint was made December 10 in justice court of Harrisville against Joseph Solomon charged with selling adulterated linseed oil. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made December 11 in justice court, city of Alpena against August Kannowski charged with refusing to give or sell sample for analysis. Case pending.

Complaint was made December 16 in justice court, city of Sault Ste. Marie against James Nanos charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$10 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Wm. Armstrong charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against D. Booth charged with selling coated nuts. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Samuel C. Skidmore charged with selling oleomargarine without displaying sign. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Joseph D. McQueen charged with selling potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Frank Callaghan charged with selling oleomargarine without displaying sign. December 18, defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Joseph Fuco charged with selling cranberries short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city Sault Ste. Marie against Joseph Fuoco charged with selling oleomargarine without displaying sign. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Fred Tropasso charged with selling potatoes short weight. Defendant entered a plea of guilty and was fined \$20 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Lorenzo DeLucia charged with selling potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against the Central Grocery Company charged with selling potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Henry Sterling charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Frank Falcone charged with selling potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city of Escanaba against John A. Stromberg charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city of Escanaba against E. A. Rose of the Royal Grocery Co. charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted on payment of costs.

Complaint was made December 17 in justice court, city of Escanaba against E. A. Rose of the Royal Grocery Co. charged with selling potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 17 in justice court, city of Sault Ste. Marie against Sam Winburg charged with selling cloth short measure. Case pending.

Complaint was made December 18 in justice court, city of Escanaba against C. Lefebore, Jr., charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 18 in justice court, city of Sault Ste. Marie against Charles Roussain charged with impersonating an inspector. Defendant entered a plea of guilty. Sentenced to 25 days in jail.

Complaint was made December 18 in justice court, city of Escanaba, against Herman Salinsky of the Fair Saving Store charged with selling cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 19 in justice court, city of Escanaba, against Peter Junger charged with having in possession with intent to sell decomposed meat. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made December 29 in justice court of East Jordan against E. L. Burdick charged with using excessive cereal in the manufacture of sausage. Defendant entered a plea of guilty. Fined \$100.

Complaint was made December 30 in justice court, city of Traverse

City against Wm. A. McCool charged with transporting cream in rusty and open seamed cans. Case pending.

Hon. James W. Helme,
State Dairy and Food Commissioner,
Lansing, Michigan.

Dear Sir: I herewith beg to report on the work done in the Laboratory Division of the Department during the months of November-December. A total of 189 samples were received and analyzed. Twenty-nine of these were found to be in conflict with the laws this Department is charged with the enforcement of.

Two samples of apples were received from the Inspector in the fruit district of the state. It seems that one Fred E. Lull of Lacota, sold some apples to a commission man in Kalamazoo. The barrels were marked "No. 1 Northern Spies." The interior of the barrel however, was found to be filled with small apples very much inferior to those placed in the ends. A complaint was made, charging the packer with a violation of the fruit and vegetable law which specifically prohibits the "facing" of a barrel of apples. The case was tried in Justice Court in Paw Paw, Van Buren County, and the jury returned a verdict of guilty. A fine was imposed and collected. This is the first case of this kind that the Department has had but it seems that this custom of "facing" barrels and baskets of fruit is quite common in some sections of the state. It is only by such steps as were taken in this instance that this fraudulent practice can be stamped out.

Twenty samples of butter were analyzed and reported on. Ten of these were found to be oleomargarine, while two were renovated butter. All the samples except one were taken from dealers in Detroit. It is in the large cities that we find more fraudulent practices where this product is concerned, than in the smaller places. Michigan, unlike a number of other states, has a law which prohibits the sale of oleomargarine artificially colored. All of the dealers in these instances were complained against, charging them with the sale of oleomargarine artificially colored in violation of the law.

Six cans of pumpkin were submitted from a Detroit Inspector. These samples represented a lot of about 3,500 gallon cans of pumpkin that were in storage in the Detroit Terminal Storage Company's Warehouse. An examination of the cans and their contents showed that there were evidences of decomposition and putrificative changes taking place which rendered them unfit for human food. The goods were condemned and seized and upon an order from the court, the entire lot was destroyed.

A sample of cloth was submitted by the Inspector in the Northern Peninsula. The cloth was sold to the Inspector for 2 yards, but upon measuring same at the Laboratory with a standard measure, it was found to be $2\frac{1}{2}$ inches short of 2 yards. A complaint was made, charging the defendant with a violation of the Weights and Measures Act and a fine collected.

Six samples of cranberries were submitted. All were found to be short in weight. The trouble here seems to be due to the fact that dealers persist in measuring cranberries with the old liquid quart measure. In

all these cases the samples were short, due to the fact that they were sold by liquid measure. One sample, No. 31439, contained about 40% of waste berries, and would have been condemned for that reason if not for short weight or measure.

Ten samples of oysters were submitted for examination. Four of these were found to contain an amount of water far above that found in normal oysters. Evidently water had been added to them.

Five samples of potatoes were sent in. In each case the potatoes were sold to the Inspector for 1 peck, which, according to the Michigan statute, should weigh 15 lbs. All of these were short in weight, ranging from a shortage of 12 ounces to 3 lbs. 3 ounces. Prosecutions were instituted in some of these instances and fines collected.

Fourteen samples of sausage were examined, nine of which were found to violate the Michigan Sausage Act. A more detailed report of these and other samples will be found in the appended report.

Very respectfully yours,

F. L. SHANNON,

State Analyst.

SUMMARY.

Article.	Total.	No. found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Apples.....	2		2
Butter.....	20	8	12
Candy.....	10	9	1
Canned Fruit.....	2	1	1
Canned pumpkin.....	1		1
Canned tomatoes.....	1		1
Cheese.....	2	1	1
Chili sauce.....	1		1
Cloth.....	1		1
Cocoa.....	1	1	
Condensed milk.....	1		1
Cranberries.....	6		6
Cream.....	22	21	1
Eggs.....	2	1	1
Figs.....	2		2
Flavoring preparations.....	1	1	
Hamburg steak.....	10	5	5
Ice cream.....	1	1	
Lard.....	7	1	6
Linseed oil.....	1	1	
Meat.....	1		1
Milk.....	43	41	2
Milk cans.....	1		1
Nuts.....	4		4
Oleomargarine.....	6		6
Oysters.....	10	8	2
Potatoes.....	5		5
Sausage.....	14	5	9
Soft drinks.....	1	1	
Sweet cider.....	1		1
Sweet pickles.....	1		1
Syrups.....	5	2	3
Vinegar.....	3	2	1
Totals.....	189	110	79

REPORTS ON SAMPLES.

APPLES.

No. 31384, P-1370. Sample of apples sold by Fred E. Lull, Lacota. Apples were sold under false representation.

No. 31385, P-1369. Sample of apples sold by Fred E. Lull, Lacota. Apples were sold under false representation.

BUTTER.

No. 31293, K-2. Sample of "butter" procured from Fred Roulo, 1750 Michigan Ave., Detroit. Sample is oleomargarine.

No. 31294, K-3. Sample of "butter" procured from Fred Roulo, 1750 Michigan Ave., Detroit. Product is oleomargarine artificially colored.

No. 31295, K-4. Sample of "butter" procured from Wm. Lewis, 596 Dix Ave., Detroit. Product is oleomargarine artificially colored.

No. 31296, K-5. Sample of "butter" procured from John B. Sales, 532 Dix Ave., Detroit. Product is oleomargarine artificially colored.

No. 31298, P-7. Sample of "butter" procured from Alec M. Wright, 819 Michigan Ave., Detroit. Product is oleomargarine artificially colored.

No. 31299, K-8. Sample of "dairy butter" procured from the Detroit Tea & Butter Co., Broadway Market, Detroit. Sample is renovated butter. Package not stamped.

No. 31300, R-9. Sample of "dairy butter" procured from H. B. Miles, 320 Grand River Ave., Detroit. Product is oleomargarine.

No. 31301, R-10. Sample of "dairy butter" procured from Frank Arens, 531 12th St., Detroit. Product is oleomargarine artificially colored.

No. 31302, R-11. Sample of "butter" procured from W. H. Green, 405 Michigan Ave., Detroit. Product is oleomargarine artificially colored.

No. 31303, V-3. Sample of "butter" procured from Chas. Moral 916 Grand River Ave., Detroit. Product is oleomargarine artificially colored.

No. 31304, V-4. Sample of "butter" procured from Thos. M. Faust, proprietor of White Front, 168 Michigan Ave., Detroit. Product is oleomargarine artificially colored.

No. 31455, B-217. Sample of "butter" procured from Acre Trocrido, Sault Ste. Marie. Sample is renovated butter. Package not stamped.

CANDY.

No. 31278, G-1131. Sample of candy procured from Geo. Grammes, Lake Linden. Sample has very rancid odor and taste due to old coconut used in its manufacture.

CANNED PLUMS.

No. 31259, I-368. Sample of canned plums manufactured by the Thomas Canning Co., Grand Rapids, and procured from The Edward Henkel Co., Detroit. The can is what is known to the commercial trade as a leaker. Net weight not stamped on label.

CANNED PUMPKIN.

No. 31258, I-367. Samples of canned pumpkin procured from the Detroit Terminal Storage Co., Detroit. The contents of these cans show evidence of decomposition and putriferative changes which render them unfit for human food. Also contains an excessive amount of tin or salts thereof.

CANNED TOMATOES.

No. 31503, B-220. Sample of canned tomatoes sold by Frank C. Holmes & Son, Alpena, and procured from W. A. Cowie, Mikado. Net weight not stated on the label. Misbranded.

CHEESE.

No. 31502, B-219. Sample of Milk Maid Cheese sold by H. Hamstra & Son, Chicago, and procured from C. H. McKim, Alpena. Manufacturer's name and address, also net weight not stated on the label. Misbranded.

CHILI SAUCE.

No. 31415, I-387. Sample of chili sauce manufactured by Lutz & Schramm Co., Pittsburgh, Pa., and procured from O'Connor Bros., Pontiac. Net weight not stated on the label. Misbranded.

CLOTH.

No. 31452, B-214. Sample of 2 yds. cloth procured from Samuel Winberg, Sault Ste. Marie. Amount short $2\frac{1}{2}$ inches.

CONDENSED MILK.

No. 31557, G-1151. Sample of condensed milk sold by the Manufacturers and Retailers Co., Chicago. No directions given for diluting. Misbranded.

CRANBERRIES.

No. 31393, B-187. One quart cranberries procured from Joseph Fuoco, Sault Ste. Marie. Sample is $4\frac{3}{7}$ oz. short weight.

No. 31439, B-179. Two quart cranberries procured from Wm. J. Armstrong, Sault Ste. Marie. Amount short by measure 13 oz. Sample is short weight and consists wholly or in part of decomposed, vegetable substance.

No. 31556, G-1150. One quart cranberries procured from C. Lerebore, Jr., Escanaba. Short weight. Sample was sold by liquid measure.

No. 31558, G-1152. One quart cranberries procured from John A. Stromberg, Escanaba. Short weight. Sample was sold by liquid measure.

No. 31559, G-1153. One quart cranberries procured from the Royal Grocery Co., Escanaba. Short weight. Product was sold by liquid measure instead of dry measure.

No. 31398, B-195. One quart cranberries procured from Henry Sterling, Sault Ste. Marie. $6\frac{3}{5}$ oz. short weight.

CREAM.

No. 31519, G-1149. Sample of cream procured from M. Henrickson. Escanaba. Butter fat 15.6%. Below standard.

EGGS.

No. 31525, F-223. Eggs sold by Eli Raycraft, Alma, and procured from C. A. Sullivan. Eggs in last stages of decomposition. Absolutely unfit for food.

FIGS.

No. 31264, R-13. Sample of figs procured from Frank Bros., 253 Napoleon St., Detroit. Wormy and dirty. Unfit for food.

No. 31488, R-12. Sample of figs sold by Frank Bros. and procured from M. Borenstein, 1038 Hastings St., Detroit. Wormy and dirty. Unfit for food.

HAMBURG STEAK.

No. 31330, I-373. Sample of Hamburg Steak manufactured and sold by Frank R. Whitfield, Pontiac. Contains added sulphurous acid or salts thereof.

No. 31413, I-385. Sample of Hamburg Steak manufactured and sold by Fred W. Boston, Pontiac. Contains added sulphurous acid or salts thereof.

No. 31477, V-8. Sample of Hamburg Steak manufactured and sold by Geo. Vorpapel, 288 Forest Ave., Detroit. Contains added sulphurous acid or salts thereof.

No. 31588, V-9. Sample of Hamburg Steak manufactured and sold by Anthony Petz, 6 Central Market, Detroit. Contains added sulphurous acid or salts thereof.

No. 31589, K-9. Sample of Hamburg Steak procured from Thomas Newton, 4 Central Market, Detroit. Contains added sulphurous acid or salts thereof.

LARD.

No. 31336, G-1136. Sample of lard procured from Paul Lamkey, Garden. Sample is lard compound, not properly labeled.

No. 31337, G-1137. Sample of lard procured from H. Deloria, Cooks Mills. Sample is lard compound, not properly labeled.

No. 31338, G-1138. Sample of lard procured from James O'Brien. Cooks Mills. Product is lard compound, not properly stamped.

No. 31339, G-1139. Sample of lard procured from Breitenbach Bros., North Escanaba, and manufactured by the Freidman Mfg. Co., Chicago. Manufacturer's package not properly labeled as lard compound. Retailer's package not labeled.

No. 31351, F-219. Sample of lard compound procured from F. H. Bitely, Casnovia. Not stamped.

No. 31396, B-193. Sample of lard procured from Tom Thomas, Sault Ste. Marie. Sample is lard compound.

MEAT.

No. 31411, F-220. Sample of dressed lamb procured from Patterson Bros., White Cloud. Sample consists wholly or in part of a decomposed, putrid, infected, tainted or rotten animal substance.

MILK.

No. 31404, B-202. Sample of milk procured from W. H. Stribling, Sault Ste. Marie. Below standard in butter fat and total solids. Probably normal milk.

No. 31408, B-206. Sample of milk procured from James Nanos, Sault Ste. Marie. Below standard in butter fat and total solids. A part of the cream had been removed.

MILK CANS.

No. 31373, B-177. Milk can procured from Wm. A. McCool, Traverse City. Can is rusty inside and has open seams. Not suitable for use.

NUTS.

No. 31359. Unofficial sample of Pecan Nuts. Nuts are coated with iron oxide.

No. 31391, B-185. Pecan nuts sold by Booth-Newton Co., Sault Ste. Marie and procured from John Coteloniz, Sault Ste. Marie. Nuts are coated with iron oxide.

No. 31390, B-182. Paradise nuts sold by Booth-Newton Co., Sault Ste. Marie and procured from Geo. Wheatley, Sault Ste. Marie. Nuts are coated with iron oxide.

No. 31395, B-191. Pecan nuts sold by E. P. Sloey & Sons, Minneapolis, and procured from Chris Gianakura, Sault Ste. Marie. Nuts are coated with iron oxide.

OLEOMARGARINE.

No. 31235, P-1368. Sample of oleomargarine procured from Geo. Smith, Hastings. No sign posted. Illegal.

No. 31305, V-5. Sample of "Butterine" procured from C. L. Pixley, 367 Dix Ave., Detroit. Product is oleomargarine artificially colored.

No. 31392, B-186. Sample of oleomargarine procured from Frank Callaghan, Sault Ste. Marie. Sample is oleomargarine. No sign displayed.

No. 31355, G-1140. Sample of oleomargarine procured from Geo. M. Mashek, Cornell. Sample is oleomargarine. No sign displayed.

No. 31394, B-188. Sample of oleomargarine procured from Joseph Fuoco, Sault Ste. Marie. Sample is oleomargarine. No sign displayed.

No. 31440, B-183. Sample of oleomargarine procured from Samuel C. Skidmore, Sault Ste. Marie. Sample is oleomargarine. No sign displayed.

OYSTERS.

No. 31328, I-371. Sample of oysters procured from Longheed & Pelton, Pontiac. Oysters contain an excessive amount of water.

No. 31417, I-389. Sample of oysters procured from M. E. Newman, Pontiac. Oysters contain an excessive amount of water.

POTATOES.

No. 31441, B-184. One peck potatoes procured from Jos. D. McQueen, Sault Ste. Marie. 14 oz. short weight.

No. 31442, B-189. One-half peck potatoes procured from Frank Trapasso, Sault Ste. Marie. 1 lb. and 12 oz. short weight.

No. 31443, B-190. One peck potatoes procured from L. Deluca, Sault Ste. Marie. 3 lbs. and 3 oz. short weight.

No. 31444, B-192. One-half peck potatoes procured from Central Grocer Co., Sault Ste. Marie. 1 lb. and 2 oz. short weight.

No. 31445, B-196. One-half peck potatoes procured from Frank Falcone, Sault Ste. Marie. 12 oz. short weight.

SAUSAGE.

No. 31281, B-160. Sample of sausage manufactured and sold by E. L. Burdock, East Jordan. Cereal 3.08%. Contains an excessive amount of cereal.

No. 31389, B-181. Sample of sausage manufactured and sold by J. H. Roe, Sault Ste. Marie. Cereal 1.67%. Package or product not stamped to indicate the presence of cereal.

No. 31416, I-388. Sample of sausage manufactured and sold by John Pawloski, Pontiac. Cereal 4.83. Sample contains an excessive amount of cereal.

No. 31483, G-1147. Sample of Frankfurt Sausage manufactured and sold by Wm. Walter, Wakefield. Cereal 2.88%. Contains an excessive amount of cereal.

No. 31493, I-390. Sample of sausage manufactured and sold by Thomas Thorn, Willis. Cereal 5.96. Contains an excessive amount of cereal.

No. 31499, I-392. Sample of sausage manufactured and sold by F. W. Frisco, Wayne. Cereal 2.76%. Contains an excessive amount of cereal.

No. 31501, I-395. Sample of sausage manufactured and sold by Hoops Bros., Wayne. Cereal 4.29%. Contains an excessive amount of cereal.

No. 31518, I-396. Sample of sausage manufactured and sold by Ben. J. Jarrard, Holly. Cereal 3.98%. Contains an excessive amount of cereal.

No. 31523, I-397. Sample of sausage manufactured and sold by Campbell & Hood, Pontiac. Cereal 6.03%. Contains an excessive amount of cereal.

SWEET CIDER.

No. 31438, F-221. Sample of sweet cider manufactured by Mikesen & Co., Traverse City. Net volume should be stated instead of net weight.

PICKLES.

No. 31388, B-180. Sample of sweet pickles sold by the Booth, Newton Co., Sault Ste. Marie, and procured from W. J. Armstrong, Sault Ste. Marie. Manufacturer's name and address not stated. Net weight does not conform to statements on label.

SYRUP.

No. 31478, P-1371. Sample of "Fancy Sugar Syrup" manufactured by the Bay State Maple Syrup Co., Boston, Mass., and handled by Godsmark, Durand Co., Battle Creek. Net weight not stated. Per cent of ingredients not stated. Not properly labeled.

No. 31479, P-1372. Sample of "Fancy Sugar Syrup" manufactured by the Bay State Maple Syrup Co., Boston, Mass., and sold by Godsmark, Durand Co., Battle Creek. The net weight and net capacity are both blown in the bottle but with both the word "about" is used. Not properly labeled.

No. 31482, G-1146. Sample of syrup manufactured by Sprague, Warner & Co., Chicago. Label states "capacity" instead of net contents. Misbranded.

VINEGAR.

No. 31333. Unofficial sample of vinegar. Low in acidity.

DRUG INSPECTIONS.

The following places were visited by the Department's drug inspection force during the months of November and December, 1914:

Ada, Adrian, Allegan, Ann Arbor, Augusta, Battle Creek, Belding, Bloomingdale, Boyne City, Brighton, Cadillac, Cassopolis, Charlevoix, Cheboygan, Chelsea, Clinton, Constantine, Crawford, Dearborn, Delton, Detroit, DeWitt, Dexter, Dorr, Dundee, Edwardsburg, Fowler, Fowlerville, Galesburg, Gobles, Grand Ledge, Grand Rapids, Grass Lake, Gaylord, Greenville, Hamtramck, Hanover, Harbor Springs, Hartford, Highland Park, Hillsdale, Holland, Howell, Hudson, Indian River, Jerome, Jonesville, Kalamazoo, Kalkaska, Lake City, Lansing, Lawrence, Leslie, McBain, Mackinaw, Manton, Mason, Mancelona, Marcellus, Marion, Marshall, Montgomery, Morley, Muskegon, Niles, North Adams, Onsted, Paw Paw, Petoskey, Portland, Quincy, Reading, Reed City, Richland, Rockford, St. Johns, Saline, Tecumseh, Three Oaks, Three Rivers, Ubandale, Vanderbilt, Williamston, Ypsilanti.

January 1, 1915.

Hon. James W. Helme, State Dairy and Food Commissioner, Lansing, Michigan:

Dear Sir: I herewith beg to submit a report covering the work of the Drug Department for the months of November and December, 1914.

Seventy-seven official drug samples were collected and analyzed, 22 of which,—or 28%, were found not to comply with the requirements of the Drug law. A few years ago when the Department was first organized 55% of the drug samples proved to be either adulterated or misbranded. The drug men are now experienced inspectors and there is no doubt that if these men had had previous experience during the first year of the Department, at least 75% of the samples would have been found to be adulterated.

The passage of the Weights and Measures law by the Legislature of 1913 has opened up a new field, in that it gives us power to test all druggists' weights, scales and glassware. As it is impossible for the two Drug Inspectors to efficiently cover the state and at the same time to look after the weights and measures, we have neglected the latter, hoping that the coming Legislature would see fit to give us power to appoint an additional inspector, whose duty would be to look after the weights, measures and glassware.

Very respectfully yours,
A. R. TODD,
State Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated, misbranded or illegal.	Found adulterated, misbranded or illegal.
Camphor liniment.....	11	8	3
Cream tartar.....	1	1	
Elixir iron, quinine and strychnine phosphate.....	2	1	1
Emulsion cod liver oil.....	6	6	
Fluid extract nux vomica.....	1	1	
Bismuth subnitrate tablets.....	2	2	
Bromide potash.....	1	1	
Headache wafers.....	2	1	1
Hexamethylenamine tablets.....	1	1	
Phenacetine tablets.....	1	1	
Phenolphthalein wafers.....	2	2	
Olive oil.....	1	1	
T. T. codeine sulphate.....	1	1	
T. T. morphine sulphate.....	1	1	
Seidlitz powders.....	2	2	
Spirits anise.....	1	1	
Spirits camphor.....	6	4	2
Spirits nitre.....	2	1	1
Spirits peppermint.....	9	4	5
Tr. Iodine.....	20	12	8
Tr. Opium.....	1	1	
Tr. vanilla.....	1		1
Zinc oxide ointment.....	2	2	
Totals.....	77	55	22

ANALYSES OF SAMPLES.

CAMPHOR LINIMENT.

No. 31263, Z-493. Sample of camphor liniment manufactured and sold by R. I. Parrish Drug Co., Kalamazoo. Camphor 12.6%. Low in camphor.

No. 31264, Z-494. Sample of camphor liniment manufactured and sold by A. J. Erwin, Battle Creek. Camphor 7.55%. Low in camphor.

No. 31506, Z-523. Sample of camphor liniment manufactured and sold by James R. Burt, Grand Rapids. Camphor 18.34%. Low in camphor.

ELIXIR IRON, QUININE & STRYCHNINE PHOSPHATE.

No. 31221, Z-484. Sample of elixir iron, quinine and strychnine phosphate manufactured by the United Drug Company, Boston, Mass., and procured from L. C. Van Gorden, Albion. Total alkaloids .52 gms. Low in total alkaloids.

HEADACHE POWDERS.

No. 30968, Z-445. Sample of Hoffer's Headache Powders manufactured and sold by J. L. Hoffer, 654 Fourth St., Grand Rapids. Sample contains an excessive amount of acetanilid, twice as much as claimed on the label.

SPIRITS CAMPHOR.

No. 31291, Z-500. Sample of spirits camphor manufactured and sold by B. C. Fisk, Edwardsburg. Camphor 9.13%. Low in camphor.

No. 31457, Z-519. Sample of spirits camphor manufactured and sold by R. Van Bochove, Grand Rapids. Camphor 8.63%. Low in camphor.

SPIRITS NITRE.

No. 31368, Z-517. Sample of spirits nitre manufactured and sold by the Conklin Drug Co., Marion. Ethyl nitrate 3.015%. Low in ethyl nitrite.

SPIRITS PEPPERMINT.

No. 31250, Z-494. Sample of spirits peppermint manufactured and sold by H. Randolph, St. Louis. Peppermint oil 4.3%. Low in oil of peppermint.

No. 31252, Q-476. Sample of spirits peppermint manufactured and sold by Ottaway's Pharmacy, 703 Oakland Ave., Detroit. Peppermint oil 0.6%. Low in oil of peppermint.

No. 31342, Z-503. Sample of spirits peppermint manufactured and sold by Arthur M. Morrow, Kalamazoo. Peppermint oil 8.8%. Low in oil of peppermint.

No. 31365, Z-514. Sample of spirits peppermint manufactured and sold by Cade Drug Co., Manton. Oil of peppermint 8.8%. Low in oil of peppermint.

No. 31468, Q-493. Sample of spirits peppermint manufactured and sold by E. C. Williams, North Adams. Oil of peppermint 7.4%. Low in oil of peppermint.

TR. IODINE.

No. 31246, Z-488. Sample of Tr. iodine manufactured and sold by E. B. Swift, Stanton. Iodine 6.04 gms., potassium iodide 2.94 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31322, Q-487. Sample of Tr. iodine manufactured and sold by Crowley Milner & Co., Detroit. Iodine 7.0 gms., potassium iodide 3.0 gms. per 100 cc. Low in potassium iodide.

No. 31343, Z-504. Sample of Tr. iodine manufactured and sold by B. F. Scott, Lake City. Iodine 2.79 gms., potassium iodide 2.595 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31362, Z-512. Sample of Tr. iodine manufactured and sold by the Eckel Drug Co., Petoskey. Iodine 7.6 gms., potassium iodide 3.833 gms. per 100 cc. Low in potassium iodide.

No. 31364, Z-513. Sample of Tr. iodine manufactured and sold by C. W. Fallas, Petoskey. Iodine 6.5 gms., potassium iodide 3.1 gms. per 100 cc. Low in potassium iodide.

No. 31366, Z-515. Sample of Tr. iodine manufactured and sold by Chas. H. Bostick, Manton. Iodine 6.04 gms., potassium iodide 3.128 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31367, Z-516. Sample of Tr. iodine manufactured and sold by the Torbeson Drug Co., Cadillac. Iodine 6.4 gms., potassium iodide 0.804 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31467, Q-492. Sample of Tr. iodine manufactured and sold by E. C. Williams, North Adams. Iodine 5.46 gms., potassium iodide 2.031 gms. per 100 cc. Low in iodine and potassium iodide.

TR. VANILLA.

No. 31251, Q-475. Sample of Tr. vanilla manufactured and sold by T. W. Hillier, 1064 Oakland Ave., Detroit. Sample is not a pure tincture of vanilla. It is an imitation extract made by dissolving vanillin in dilute alcohol and coloring with caramel.

Scales examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
Morgan & Grierson	Ahmeek	1		
Morgan & Grierson	Ahmeek	1		1
Jake Effinger	Allouez	1		
Peterman Stores Co., Inc.	Allouez	1		1
J. Walter & Son	Alpena		1	
Hickey & Hogle	Alpena		1	
Joseph Giamone	Alpena		2	
I. Cohn	Alpena		1	
A. Maglioncalda	Ann Arbor		1	1
Joseph Livernois	Ann Arbor			1
Keyer & Whitker	Ann Arbor			3
W. H. Gregory	Ann Arbor			1
Wm. Goetz & Son	Ann Arbor			2
Geo. Gelsenforfer	Ann Arbor			3
A. C. Digby	Ann Arbor			3
J. A. Brown	Ann Arbor			1
Steve Brousalis	Ann Arbor		2	
Bigalke & Reule	Ann Arbor			2
Basley's Market	Ann Arbor			2
Applegate Creamery	Applegate			1
Applegate Elevator	Applegate		2	3
R. Hawkins	Applegate	1		1
Jos. Moffett	Applegate	2		
E. McNaughton	Applegate		1	
Carl F. Holden	Augusta, R. F. D.	1		
J. B. Frechette	Bark River		1	
Milk Producers Co.	Battle Creek		1	
Holland & Harrington	Bessemer		1	
Maroni & Moncher	Bessemer		1	
Geo. Antiohio & Co.	Calumet	2	1	
Barsotti Bros.	Calumet	2		
M. Bianchi & Co.	Calumet	2		
Victor Brandon	Calumet		1	
George Fox	Calumet	1		1
Glass Block Store Co.	Calumet	2	1	
H. E. Lean & Sons	Calumet	2	3	
Lake Linden Co-operative Co.	Calumet	1		
S. Joseph	Calumet		1	
Ed. Keiser	Calumet	1		1
Victor Mackl	Calumet	1		
Matherson & Johnson	Calumet	1	1	
Carla Miglio	Calumet	1		
Mike Paul	Calumet		1	
Olaf Paulson	Calumet	1		
Quick & Pascoe	Calumet	1		
N. Reding & Co.	Calumet	4		
F. H. Schumacker	Calumet	2		
Henry Somonen	Calumet	2	1	
J. D. Lashbrower	Central Lake	2	3	
W. H. Sherman	Central Lake		1	
C. E. Walker Co.	Central Lake		1	
Martin Block	Charlevoix		2	1
F. S. Blanchard Est.	Charlevoix		1	
H. R. Fowler	Charlevoix		2	
C. L. Ganser	Charlevoix		1	
Geo. Glados	Charlevoix		1	
Fisk Hardware Co.	Charlevoix		1	
L. J. McCann	Charlevoix		1	
H. E. McHugh	Charlevoix		1	
F. S. Myers	Charlevoix		2	
Prevost & Lloyd	Charlevoix		1	
Smalleher & Smith Co.	Charlevoix		3	
H. G. Ketchum	Cohoctah	1	1	1
J. D. Locke	Cohoctah	1		
W. E. Miller	Cohoctah		1	1

Scales examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
Edwin Pratt.....	Cohoctah.....		1	1
Henry Deloria.....	Cook Mills.....		1	
Wm. Stinmach.....	Copper City.....	1		1
Sam Morris.....	Cross Village.....		1	
Walter Samolski.....	Cross Village.....		1	
C. H. Schand.....	Cross Village.....		1	
City Market Co.....	Detroit.....	1		
R. H. Heiniman.....	Detroit.....		1	
G. L. Ireland.....	Detroit.....		1	
J. Lawanda.....	Detroit.....		1	
F. Michael.....	Detroit.....		1	
Alec Wilson.....	Detroit.....		1	
A. E. Bartlett.....	East Jordan.....		4	
E. L. Burdock.....	East Jordan.....		1	
John Batsakis.....	East Jordan.....		2	
A. Churchill.....	East Jordan.....		1	
H. L. Dunson.....	East Jordan.....		1	
East Jordan Lumber Co.....	East Jordan.....		3	
D. E. Goodman.....	East Jordan.....		1	
John Williams.....	East Jordan.....		1	
Ed. Bittner.....	Escanaba.....		1	
S. W. Brennan.....	Escanaba.....		1	
Geo. Jensen.....	Escanaba.....		1	
John O'Meara.....	Escanaba.....		1	
Wm. Saur.....	Escanaba.....		1	
Thompson Bakery.....	Escanaba.....		1	
Henry Delorua.....	Garden.....		1	
Paul Lamkey.....	Garden.....		1	
Gustin Elevator Co.....	Gustin.....		2	
Adams Express Co.....	Harbor Beach.....	1		
Dawson & Feick.....	Harbor Beach.....	3		
Harwood & Darlington (ten barn)	Harbor Beach.....			1
Harwood & Darlington (Market)	Harbor Beach.....	2		
Huron Milling Co. (Mill).....	Harbor Beach.....	5		
Huron Milling Co. (Elevator).....	Harbor Beach.....	6	1	
Medina Creamery Co.....	Harbor Beach.....	1		
Michigan Creamery Co.....	Harbor Beach.....	1		
Mihlethaler Co., Ltd.....	Harbor Beach.....	6	1	1
Mihlethaler Co., Ltd. (Retail)	Harbor Beach.....	1		
Port Huron Creamery Co.....	Harbor Beach.....			1
Producers Elevator Co.....	Harbor Beach.....	3		1
James Ramage.....	Harbor Beach.....	1		
Green Bros.....	Harrisville.....		3	
Perry Jacobs & Son.....	Holly.....		1	
Gordon Elevator Co.....	Howell.....	5	1	
Howell Lumber & Coal Co.....	Howell.....			1
Jones Bros. Coal Co.....	Howell.....			1
Coscarelli & Spadafore.....	Howell.....			4
Strobel & Schmidt.....	Howell.....	2	2	1
J. O. Taft.....	Howell.....	1		
John Forslund.....	Ironwood.....		1	
W. H. Madison, Agt.....	Ironwood.....		1	
Dominic Gentile.....	Jesseville.....		1	
Finnish Workmen's Co-Operative Co.	Kearsage.....	1	1	
Peterman Stores Co. (Grocery).....	Kearsage.....		2	
Peterman Stores Co. (Market)	Kearsage.....	1	1	
*Peterman Stores Co. (Market)	Kearsage.....	1		1
*Peterman Stores Co. (Grocery)	Kearsage.....	2		2
Chas. Fink.....	Lake Linden.....		1	
Geo. Grammes.....	Lake Linden.....	2		
L. Hennes & Co.....	Lake Linden.....	1		
W. C. Gilbert.....	Lake Linden.....	2		
Lake Linden Co-Operative Society	Lake Linden.....	1	2	
Medeard LaPlante.....	Lake Linden.....	1	1	
John Pfeifer.....	Lake Linden.....	1	1	

*Not sealed.

Scales examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
T. H. Rule & Bros.	Lake Linden	2	1	
E. F. Sutton & Co.	Lake Linden	6		1
F. G. Wiesenauer	Lake Linden	1		
Gourd Bros.	Laurium	1		1
F. H. Lantz & Co.	Laurium	1		1
Bat Marta.	Laurium	1		1
Nels Nelson	Laurium	1		1
Niemela & Son	Laurium	1		1
W. J. Reynolds	Laurium	1		1
James A. Torreano	Laurium	1		1
Alcona Roller Mills	Lincoln		1	
E. Goheen	Lincoln		1	
Lincoln Mercantile Co.	Lincoln		1	
Hoar & Bennett	Levering		1	
Mason Elevator Co.	Mason		1	
R. B. Rayner	Mason	1		
J. P. Smith	Mason		1	
W. A. Cowie	Mikado		1	
A. F. Krebs	Olivet		1	
B. L. Axford	Owosso	1		
C. & E. Capitan	Owosso		1	1
G. & C. Capitan	Owosso	1		
Harry Capitan	Owosso		2	
Fater Capitan	Owosso		1	2
Laverock & Mattson	Owosso		1	
Mulhall & Erb Co.	Owosso		1	
Owosso Gas Co.	Owosso		1	
*Owosso Gas Co.	Owosso		1	
Owosso Ice & Coal Co.	Owosso		1	
Owosso Sugar Co.	Owosso	1		
Owosso Truck Co.	Owosso	1		
Harry E. Smith & Co.	Owosso		4	
*Harry E. Smith & Co.	Owosso	1		
Sturtevant & Blood	Owosso	1		
W. H. Van Sice	Owosso	1		
Dunning & Hart	Perry		1	
Perry Lumber & Coal Co.	Perry	1		
M. L. Finnegan	Pontiac			1
Ed. Hockey	Pontiac			1
Knox General Store	Pontiac		4	
Star Grocery	Pontiac			1
G. A. Webb	Pontiac		1	
C. J. Barnard	St. Louis	1		
Holland-St. Louis Sugar Co.	St. Louis	1		
Lou. Martin	St. Louis		1	
P. M. Freight Office	St. Louis	1		
J. H. Palmer	St. Louis		1	
J. L. Smith	St. Louis		1	
O. Watts	St. Louis	1		
Moses Andary	Sault Ste. Marie		1	
A. M. Andary	Sault Ste. Marie		1	
M. H. Boebous	Sault Ste. Marie		1	
R. H. Boss	Sault Ste. Marie		2	
Lawrence Delma	Sault Ste. Marie		1	
John Dion	Sault Ste. Marie		1	
Sam Elliott	Sault Ste. Marie		1	
E. Fleming	Sault Ste. Marie		1	
Peter George	Sault Ste. Marie		1	
James Goulding	Sault Ste. Marie		1	
Geo. Kolvos	Sault Ste. Marie		1	
Geo. Mitchen	Sault Ste. Marie		2	
J. H. Moher	Sault Ste. Marie		1	
Chris Moloney	Sault Ste. Marie		1	
E. J. Murray	Sault Ste. Marie		1	
J. Napoleon	Sault Ste. Marie		1	
Pappas Bros.	Sault Ste. Marie		1	

*Not sealed.

STATE OF MICHIGAN.

Scales examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
John Roe.....	Sault Ste. Marie,...		1	.....
Eugene Rogers.....	Sault Ste. Marie.....		2	.....
Mrs. Riaso.....	Sault Ste. Marie.....		1	.....
G. Sergannes.....	Sault Ste. Marie.....		1	.....
L. C. Skidmore.....	Sault Ste. Marie.....		1	.....
Western Express Co.....	Sault Ste. Marie.....		2	.....
Wheatley Bros.....	Sault Ste. Marie.....		3	.....
John Delmet.....	Wakefield.....		1	.....
Chas. Trombley.....	Wayne.....		1	..... i
W. S. Bird.....	White Cloud.....		1	.....
J. Cohen Co.....	White Cloud.....		1	.....
Thomas Thorn.....	Willis.....		1	.....

Measures examined during the month of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
C. A. Belourn.....	Alpena.....	.....	4	.....
H. Flewelling.....	Alpena.....	.....	4	.....
C. H. McKim.....	Alpena.....	.....	4	.....
R. Orman.....	Alpena.....	.....	3	.....
J. C. Runnels.....	Alpena.....	.....	2	.....
Peter Smeoder.....	Alpena.....	.....	2	.....
R. Holmes.....	Alpena.....	.....	4	.....
Hickey & Hogle.....	Alpena.....	.....	4	.....
Joseph Griamano.....	Alpena.....	.....	3	.....
I. Cohn.....	Alpena.....	.....	4	.....
Abbott & McLough.....	Ann Arbor.....	.....	1	.....
John C. Fischer.....	Ann Arbor.....	.....	8	.....
Geo. Goodrich.....	Ann Arbor.....	.....	1	.....
Haasa & Heibien.....	Ann Arbor.....	.....	1	.....
Knehnle & Weyer.....	Ann Arbor.....	.....	6	.....
S. S. Kresga Co.....	Ann Arbor.....	.....	3	.....
Chas. Limpert.....	Ann Arbor.....	.....	5	.....
Tom Maes.....	Ann Arbor.....	.....	1	.....
Muellig & Schmid.....	Ann Arbor.....	.....	14	.....
John Neithammer.....	Ann Arbor.....	.....	5	.....
Schumacher's Hardware.....	Ann Arbor.....	.....	15	.....
Miss Anna Spatheif.....	Ann Arbor.....	.....	1	.....
Staeblar & Co.....	Ann Arbor.....	.....	6	.....
Theurer & Walker.....	Ann Arbor.....	.....	5	.....
J. F. Wagner & Co.....	Ann Arbor.....	.....	5	.....
A. R. Fell.....	Ann Arbor.....	.....	10	.....
J. H. Miller.....	Ann Arbor.....	.....	8	.....
Keyer & Whitker.....	Ann Arbor.....	.....	8	.....
W. H. Gregory.....	Ann Arbor.....	.....	2	.....
B. Disderive.....	Ann Arbor.....	.....	3	.....
A. C. Digby.....	Ann Arbor.....	.....	5	.....
J. A. Brown.....	Ann Arbor.....	.....	13	.....
Steve Brousalis.....	Ann Arbor.....	.....	1	.....
Bigalke & Reule.....	Ann Arbor.....	.....	5	.....
Victor Brandon.....	Calumet.....	1	.....	.....
Glass Block Store Co.....	Calumet.....	7	.....	.....
Victor Mackl.....	Calumet.....	2	.....	.....
Matheson & Johnson.....	Calumet.....	6	.....	.....
Martin Block.....	Charlevoix.....	.....	6	.....
L. S. Lee.....	Charlevoix.....	.....	2	.....
Marvin's Dept. Store.....	Charlevoix.....	.....	4	.....
Smallager & Smith Co.....	Charlevoix.....	.....	4	.....
B. Jublenskie.....	Cross Village.....	.....	3	.....
Sam Morris.....	Cross Village.....	.....	5	.....
Walter Samolaki.....	Cross Village.....	.....	1	.....
A. Abrams.....	Detroit.....	.....	4	.....
J. J. Ackerman.....	Detroit.....	.....	7	.....
W. J. Ackerman.....	Detroit.....	.....	9	.....
Asher Bros.....	Detroit.....	.....	4	.....
Awe & Sieler.....	Detroit.....	.....	6	.....
Ballosen & Anelfer.....	Detroit.....	.....	3	.....
A. Bennett & Son.....	Detroit.....	.....	2	.....
J. L. Berman.....	Detroit.....	.....	6	.....
Bethney & Miller.....	Detroit.....	.....	4	.....
G. H. Boehm.....	Detroit.....	.....	4	.....
Wm. Boyd.....	Detroit.....	.....	1	.....
Ed. J. Bremans.....	Detroit.....	.....	7	.....
E. Cork.....	Detroit.....	.....	7	.....
City License No. 673.....	Detroit.....	.....	1	.....
City License No. 101.....	Detroit.....	.....	4	.....
City License No. 555.....	Detroit.....	.....	3	.....
City License No. 131.....	Detroit.....	.....	2	.....
City License No. 268.....	Detroit.....	.....	4	.....
City License No. 555.....	Detroit.....	.....	4	.....
Cash Bros.....	Detroit.....	.....	4	.....

Measures examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
G. Chodoroff	Detroit		1	
Alex Cohen	Detroit		2	
Chas. Cohen	Detroit		5	
S. Collins	Detroit		3	
P. J. Conley	Detroit		3	
A. J. Connley	Detroit		5	
Chas. Cook	Detroit		5	
J. Cooper	Detroit		4	
*J. Cooper	Detroit		5	
D. Cunningham	Detroit		1	
Wm. Cunningham	Detroit		3	
F. Dame	Detroit		4	
A. G. Damerow	Detroit		4	
S. David	Detroit		2	
Deratany Bros.	Detroit		1	
F. C. Drews	Detroit		3	
S. Fedewa	Detroit		2	
J. Fishbain	Detroit		5	
L. J. Fruehauf	Detroit		8	
N. Gameberg	Detroit		1	
Geo. Gardiner	Detroit		6	
Gaynan & Van Sickle	Detroit		7	
Ben Gelman	Detroit		5	
L. Glass	Detroit		4	
Isadore Glazer	Detroit		1	
A. Gleck	Detroit		5	
S. Goldberg	Detroit		5	
E. R. Grabaske	Detroit		3	
L. D. Greenfield	Detroit		2	
F. A. Griese	Detroit		7	
Anthony Grober	Detroit		4	
E. Grier	Detroit		3	
Wm. Haarz	Detroit		5	
W. S. Haight	Detroit		6	
L. Halperns	Detroit		2	
H. Hammer	Detroit		4	
T. P. Harmong	Detroit		11	
A. H. Heinlman	Detroit		4	
Hickey Bros.	Detroit		7	
Wm. Hilton	Detroit		4	
M. Hirsch	Detroit		4	
Hyatt & Rouen	Detroit		5	
M. Hyman	Detroit		4	
A. Jaffe	Detroit		4	
John Bros.	Detroit		4	
R. D. Johnson	Detroit		5	
George Johnson	Detroit		7	
L. Kasoff	Detroit		3	
A. Kauffman	Detroit		4	
Wm. Korash	Detroit		1	
Koury & Saba	Detroit		6	
Kresge's 10-cent Store	Detroit		1	
L. J. Kretschmar	Detroit		5	
*Chas. H. Kunse	Detroit		9	
W. P. Lang	Detroit		5	
Joseph Lapides	Detroit		5	
J. Leiblin	Detroit		4	
L. Liebert	Detroit		5	
H. Levin	Detroit		4	
Otto Loeffelbein	Detroit		4	
Lrable Gro. & Meat Co.	Detroit		4	
E. F. Lynch	Detroit		4	
O. H. Massinch	Detroit		6	
D. M. McCallum	Detroit		4	
R. W. McClure	Detroit		1	

Measures examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
G. W. McIntyre.	Detroit.		3	
Mrs. Belle McKee.	Detroit.		2	
J. A. Meagher.	Detroit.		1	
P. Mehran.	Detroit.		3	
Mexican Coffee Co.	Detroit.		4	
E. Michael.	Detroit.		1	
Michael Bros.	Detroit.		7	
Mrs. L. Micus.	Detroit.		5	
J. J. Miller.	Detroit.		3	
H. Mitchell.	Detroit.		4	
Samuel Munch.	Detroit.		3	
H. C. Mundt.	Detroit.		5	
E. Murphy.	Detroit.		6	
Ed. Neuman.	Detroit.		1	
Neveux Bros.	Detroit.		5	
A. Nuytens.	Detroit.		5	
H. Orsland.	Detroit.		3	
L. M. Oulnet.	Detroit.		4	
Samuel Palazzolo.	Detroit.		6	
B. Patchett.	Detroit.		4	
R. Paul.	Detroit.		1	
A. Pepper & Son.	Detroit.		4	
J. H. Peterpren.	Detroit.		10	
J. Petrick.	Detroit.		7	
M. Phillips.	Detroit.		6	
Frank Piterovitch.	Detroit.		3	
G. Plein.	Detroit.		1	
J. Potrzuski.	Detroit.		4	
J. & P. Platte.	Detroit.		1	
P. Quirk.	Detroit.		2	
J. Ranchverger.	Detroit.		7	
Raymond Butter & Egg Co.	Detroit.		2	
Reed Bros.	Detroit.		2	
S. Rice.	Detroit.		4	
Richter Bros.	Detroit.		5	
J. Richcardl.	Detroit.		5	
M. Root.	Detroit.		6	
S. Rottenberg.	Detroit.		3	
L. Roy.	Detroit.		1	
St. John's Grocery.	Detroit.		2	
A. Samlsky.	Detroit.		2	
The Sanitary Grocer.	Detroit.		2	
J. J. Schlenck.	Detroit.		4	
A. Schmidt.	Detroit.		4	
Schneider & Bates.	Detroit.		1	
E. E. Schultz.	Detroit.		1	
A. Segall.	Detroit.		3	
H. Shacolinck.	Detroit.		4	
M. Shapero.	Detroit.		5	
M. Shepero.	Detroit.		4	
M. Singer.	Detroit.		2	
E. Socal & Son.	Detroit.		4	
S. Smeefsky.	Detroit.		1	
Louis Smith & Sons.	Detroit.		1	
S. Solomon.	Detroit.		2	
S. Spinedla.	Detroit.		3	
O. Stickley.	Detroit.		1	
P. E. Suggs.	Detroit.		10	
H. Swartz.	Detroit.		8	
E. Tardil.	Detroit.		8	
J. A. Tice.	Detroit.		4	
L. Towar.	Detroit.		4	
W. H. Tucker.	Detroit.		4	
William Waldenmiller.	Detroit.		5	
Wetherwas & McEwan.	Detroit.		6	

Measures examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
J. T. Warren Co.	Detroit		5	
I. Wetsman	Detroit		4	
L. W. Wilsheer	Detroit		5	
Wirth & Ghrls.	Detroit		7	
M. W. Wolf	Detroit		5	
J. C. Worthman	Detroit		4	
Sam Vallick	Detroit		5	
H. W. Ziemman	Detroit		1	
A. E. Bartlett	East Jordan		5	
Geo. A. Bell	East Jordan		4	
C. A. Brabant	East Jordan		5	
E. L. Burdock	East Jordan		4	
Geo. Carr	East Jordan		2	
H. L. Dunson	East Jordan		3	
E. Jordan Lumber Co.	East Jordan		6	
Mihethaler Co., Ltd.	Harbor Beach	1	4	
C. A. Best	Holly		1	
Westfall & Westfall	Holly		5	
W. C. Jilbert	Lake Linden		4	
Lake Linden Co-Operative Society	Lake Linden	3		
Medard LaPlante	Lake Linden	2	2	
John Pfeiffer	Lake Linden	2	1	
T. H. Rule & Bros.	Lake Linden	3	1	
E. F. Sutton & Co.	Lake Linden			
W. H. Jasephson	Lincoln		4	
Hoar & Bennett	Levering		8	
Reed & Co.	Levering		5	
J. J. Walker	Levering		2	
C. E. Baxter	Oxford		2	
G. A. Brokenshaw	Oxford		1	
Marshall Bros.	Oxford		1	
John Sutherland	Oxford		1	
J. G. Sutherland	Oxford		2	
R. H. Baker & Co.	Pontiac		1	
Blym & Whiting	Pontiac		11	
Brand & Bowles	Pontiac		7	
Cadillac Meat Market	Pontiac		1	
A. Chucop	Pontiac		4	
Donahue & Donahue	Pontiac		4	
D. H. Donavan	Pontiac		4	
T. P. Farrell	Pontiac		6	
Ernest H. Fay	Pontiac		6	
E. E. Finley	Pontiac		8	
M. L. Finnegan	Pontiac		3	
F. W. Gaukler	Pontiac		7	
Tony Giglio	Pontiac		1	
D. E. Green	Pontiac		2	
Hazelton Fetch Co.	Pontiac		3	
R. G. Hicklin	Pontiac		3	
Ed. Hockey	Pontiac		2	
Keale & Collins	Pontiac		5	
Knex General Store	Pontiac		6	
Lewis & Lewis	Pontiac		7	
W. H. Malkin	Pontiac		2	
Marsh & Bromley	Pontiac		4	
Wm. Mingst	Pontiac		5	
A. Moden	Pontiac		7	
M. E. Newman	Pontiac		1	
Chas. H. Newton	Pontiac		6	
O'Connor Bros.	Pontiac		4	
*O'Connor Bros.	Pontiac		2	
Parmenter & Stock	Pontiac		5	
John Ravell	Pontiac		7	
Reynolds & Newman	Pontiac		2	
A. C. Ritch	Pontiac		8	

*Not sealed.

Measures examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
A. Schanasby.....	Pontiac.....		4	.....
The Star Grocery.....	Pontiac.....		7	.....
Geo. Updegraff.....	Pontiac.....		4	.....
B. O. Whitefield.....	Pontiac.....		19	.....
E. D. Bernier.....	Sault Ste. Marie.....		2	.....
R. H. Boes.....	Sault Ste. Marie.....		2	.....
Sam Elliott.....	Sault Ste. Marie.....		1	.....
E. Fleming.....	Sault Ste. Marie.....		2	.....
James Goulding.....	Sault Ste. Marie.....		2	.....
Eugene Rogers.....	Sault Ste. Marie.....		2	.....
Brown & Co.....	Stockbridge.....		1	.....
W. J. Daneer & Co.....	Stockbridge.....		1	.....
Lantis & Brownell.....	Stockbridge.....		1	.....
J. K. Stanley.....	Stockbridge.....		3	.....
Wells W. Bailey.....	Wayne.....		5	.....
H. Janner.....	Wayne.....		3	.....
C. H. Kingeburg.....	Wayne.....		9	.....
H. Peters.....	Wayne.....		3	.....
Stallwagen & Snyder.....	Wayne.....		8	.....
Chas. Trombley.....	Wayne.....		2	.....
G. W. Vealey.....	Wayne.....		2	.....
Bernhard Merc. Co.....	White Cloud.....		1	.....
W. S. Bird.....	White Cloud.....		2	.....
J. Cohen Co.....	White Cloud.....		2	.....
C. E. Wilson.....	White Cloud.....		2	.....
Thomas Thorn.....	Willis.....		2	.....

Weights examined during the months of November and December, 1914.

Name of firm.	Location.	Sealed.	Con- demned.	Adjusted.
Applegate Elevator.....	Applegate.....	3		5
R. Hawkins.....	Applegate.....	5		
Jos. M. G. Moffett.....	Applegate.....	6		
Geo. Antiohio & Co.....	Calumet.....	6		
M. Bianchi & Co.....	Calumet.....	5		
Glass Block Store Co.....	Calumet.....	11		8
H. E. Lean & Sons.....	Calumet.....	8		
Ed. Kelsner.....	Calumet.....	4		1
Matheson & Johnson.....	Calumet.....	4		1
Carla Miglio.....	Calumet.....	5		
N. Reding & Co.....	Calumet.....	6		
H. G. Ketchum.....	Cohoctah.....			3
W. E. Mills.....	Cohoctah.....	4		
Edwin Pratt.....	Cohoctah.....			4
E. L. Brudock.....	East Jordan.....		3	
Harwood & Darlington.....	Harbor Beach.....	2		1
Huron Milling Co. (Mills).....	Harbor Beach.....	14		
Huron Milling Co. (Elevator).....	Harbor Beach.....	15		3
Medina Creamery Co.....	Harbor Beach.....	1		3
Michigan Creamery Co.....	Harbor Beach.....	1		
Mihethaler Co., Ltd.....	Harbor Beach.....	4		
Mihethaler Co., Ltd. (Retail).....	Harbor Beach.....	2		6
Port Huron Creamery Co.....	Harbor Beach.....	3		
Producers Elevator Co.....	Harbor Beach.....	17		2
Gordon Elevator Co.....	Howell.....	14		
Coscarelli & Spadafore.....	Howell.....	11		1
George Grammes.....	Lake Linden.....	4		2
*George Grammes.....	Lake Linden.....	5		
Lake Linden Co-Operative Society.....	Lake Linden.....	8		
E. F. Sutton & Co.....	Lake Linden.....	14		
F. G. Wiesenauer.....	Lake Linden.....	2		
Mrs. Russo.....	Sault Ste. Marie.....		4	

Yard Sticks, Counter Measures and Tapes examined during November and December, 1914.

Name of firm.	Location.	Correct.	In-correct.	Adjusted.
Mrs. Urquhart Gaudette.....	Bessemer.....		1	
Skud Goldman & Co.....	Bessemer.....		14	
Hagan & Soldberg.....	Bessemer.....		3	
Kulasavicz & Skwor.....	Bessemer.....		1	
P. J. LaBlond.....	Bessemer.....		18	
L. H. Truettner & Co.....	Bessemer.....		10	
Glass Block Store Co.....	Calumet.....		70	47
Matheson & Johnson.....	Calumet.....		3	
N. Reding & Co.....	Calumet.....		12	4
A. Bergeon.....	Charlevoix.....		14	
J. L. Crane.....	Charlevoix.....		13	
C. L. Ganser.....	Charlevoix.....		2	
M. A. Levenson.....	Charlevoix.....		14	
Mason's Dept. Store.....	Charlevoix.....		12	
Smallegger & Smith Co.....	Charlevoix.....		15	
Walter Samolaki.....	Cross Village.....		2	
M. E. Aschley & Co.....	East Jordan.....		4	
C. A. Brabant.....	East Jordan.....		2	
A. Danto.....	East Jordan.....		6	
E. Jordan Lumber Co.....	East Jordan.....		18	
H. Rosenthal.....	East Jordan.....		3	
J. L. Welsman.....	East Jordan.....		7	
M. A. Burns.....	Escanaba.....		3	
Ed. Erickson Co.....	Escanaba.....		75	
Fair Savings Store.....	Escanaba.....		35	
Kratze Bros.....	Escanaba.....	8		
Alex F. McRoe.....	Greenbush.....		4	
Frank, Marks & Frank.....	Holly.....		4	
Erickson Est.....	Jesseville.....		2	
Davis & Fair.....	Ironwood.....		53	53
Mr. Hirschland.....	Ironwood.....		12	12
Home Store Co.....	Ironwood.....		12	12
O. Honkanson.....	Ironwood.....		4	
Alfred Johnson.....	Ironwood.....		1	
Nanearrow & Treslins.....	Ironwood.....		1	
L. Hennes & Co.....	Lake Linden.....		13	
Solomon Jacobson.....	Lake Linden.....	5		4
Lake Linden Co-Operative Society.....	Lake Linden.....	14		14
E. F. Sutton & Co.....	Lake Linden.....	12		12
E. Goheen.....	Lincoln.....		1	
Hoar & Bennett.....	Levering.....		2	
Reed & Co.....	Levering.....		3	
J. J. Walker.....	Levering.....		1	
Joseph J. Kohn.....	Mikado.....		2	
Barriah Bros.....	Sault Ste. Marie.....		3	
Skud Goldman.....	Wakefield.....		8	
L. Lieberman.....	Wakefield.....		2	
Peoples Co-Operative.....	Wakefield.....		4	
Wakefield Store Co.....	Wakefield.....		4	
Wells W. Bailey.....	Wayne.....		1	
Stellwagen & Snyder.....	Wayne.....	1		

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds	Sanitary surroundings.
Barrien County, November:					
Coloma Creamery Assn.	Coloma.	Geo. W. Grant.	2,147,299	109,777	Good...
Dayton Creamery.	Dayton.	John Jacobson.			Good...
Glendora Creamery.	Glendora.	Bishop Creamery.		49,800	Fair...
Three Oaks Creamery.	Three Oaks.	John Jacobson.	2,319,000		Good...
Calhoun County, November:					
J. C. Cogswell Milk Depot.	Albion.	J. C. Cogswell.			Good...
Maple City Creamery.	Albion.	D. S. Birdsell.		38,000	Good...
Marshall Cream Station.	Marshall.	Jackson City Cry.			Good...
Marshall Creamery Co.	Marshall.	Marshall Cry. Co.		104,506	Good...
Towars Cream Station.	Albion.	Towars's Cry. Co.			Good...
Cass County, November:					
Dowagiac Creamery Co.	Dowagiac.	J. S. Green.		96,307	Good...
Jones Creamery Co.	Jones.	C. H. Black.		62,500	Good...
Palace Milk Depot.	Dowagiac.	C. G. Erwine.			Good...
Vandalia Creamery.	Vandalia.	L. Vanantwerpt.		73,840	Fair...
Clinton County, November:					
Bishop's Clinton Creamery.	St. Johns.	E. E. Bishop.		200,000	Good...
Durand Creamery Co.	St. Johns.	Durand Cry. Co.			Good...
Medina Co. Cream Station.	St. Johns.	Geo. Willoby.			Good...
Swift & Co. Cream Station.	St. Johns.	Glen Danley.			Good...
Genesee County, November:					
Clio Cream Station.	Clio.	Flushing Cry. Co.			Good...
Goodrich Dairy Assn.	Goodrich.	Goodrich Dairy Assn.		160,890	Good...
Gratiot County, November:					
Swift & Co. Creamery.	Alma.	Swift & Co.		2,000,000	Good...
Hilledale County, November:					
Litchfield Creamery.	Litchfield.	W. E. Sheldon.		463,158	Good.
Ingham County, November:					
Island City Creamery.	Lansing.	W. J. Eaton.		100,000	Good...
Iosco County, November:					
Iosco Creamery Co.	Whittemore.	M. Jensen.			Good...
Jackson County, November:					
Elmer Bros. Creamery.	Devereaux.	Elmer Bros.		155,000	Good...
Parma Butter Co.	Parma.	Jos. Helmer.	4,846,260	302,871	Good...
Cream Station.	Springport.	A. M. Smith Co.			Good...
Springport Cream Sta.	Springport.	Island City Cry.			Good...
Lapeer County, November:					
Imlay City Cream Station.	Imlay City.	R. A. Butler.			Fair...
Imlay City Creamery Co.	Imlay City.	J. C. Keyworth.		127,196	Good...
Lapeer County Creamery.	Lapeer.	R. F. Frary.		87,000	Good...
Pt. Huron Cry. Co. Cream Station.	Imlay City.	Pt. Huron Cry. Co.			Fair...
Mason County, November:					
Chesterfield Cry. Skimming Station.	Mt. Clemens.	F. Bubstein.			Good...
Gata Cry. Co.	Mt. Clemens.	John Gata.	1,816,040	62,305	Good...
New Baltimore Creamery.	New Baltimore.	N. Baltimore Cry.	864,519	58,604	Good...
Washington Cream Station.	Washington.	Towar's Wayne Co.			Good...
Clarenceville Milk Depot.	Clarenceville.	Towar's Wayne Co.			Good...
Ortonville Cream Station.	Ortonville.	Detroit Cry. Co.			Good...

Creameries.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean...	Clean...	Good...	Good...	Clean...	Clean...	Clean...	Clean...	Good...	Good...	Good...	Good...	94
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	95
Clean...	Good...	Clean...	Clean...	Clean...	Clean...	Clean...	Fair...	Clean...	Good...	Good...	Good...	90
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...		Good...	Good...	Good...	
Clean...	Good...				Clean...		Good...	Clean...	Good...	Good...	Good...	92
Clean...	Clean...				Clean...		Good...	Clean...	Good...	Good...		90
Clean...												
Clean...	Good...				Clean...		Good...	Clean...	Good...	Good...		91
Clean...	Good...				Clean...		Good...	Clean...	Good...	Good...		91
Clean...	Good...				Clean...		Good...	Clean...	Good...	Good...	Fair...	93
Clean...				Good...	Fine...		Good...	Good...		Good...		91
Clean...												
Clean...	Clean...	Clean...	Clean...		Clean...	Clean...	Fair...	Clean...	Good...	Good...		94
Good...					Good...		Good...	Good...		Good...		90
Clean...	Good...				Clean...		Good...	Clean...	Good...	Good...		94
Clean...					Good...			Good...				
Good...	Good...			Good...	Fine...	Fine...		Good...	Good...		Good...	91
Clean...	Good...	Clean...	Clean...		Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	91
Clean...	Good...				Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	94
Clean...												
Clean...	Good...				Clean...		Fair...	Clean...	Fair...	Fair...		90
Clean...	Good...			Good...	Clean...		Good...	Clean...	Good...	Good...		92
Clean...												
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Fair...		Good...	Good...	Good...	93
Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Clean...	Good...	Clean...	Good...	Good...	Good...	93
Clean...										Good...	Good...	
Clean...												

Inspection of

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surround- ings.
Saginaw County, November:					
Breckenridge Creamery Co.	St. Charles	Brownell & Schoevan .....	.....	.....	Good. .
Breckenridge Cream Station	Merrill	G. W. Hutchins .....	.....	.....	Good...
Merrill Creamery	Merrill	Ed. McCartney .....	.....	.....	Good...
Saginaw Creamery Co.	Saginaw	Hack & Burgess .....	.....	.....	Good...
Standard Butter Co. Cream Station	St. Charles	P. Schwitager .....	.....	.....	Good...
Cream Station	Merrill	Swift & Co. ....	.....	.....	Good...
Shiawassee County, November:					
Durand Creamery Co.	Durand	J. Bender .....	.....	.....	Good...
Tuscola County, November:					
Reese County Creamery	Reese	H. J. Greer .....	.....	.....	Good...
Wayne County, November:					
Canton Milk Depot	Canton	Detroit Cry .....	.....	.....	Good...
Detroit Creamery	Detroit	Detroit Cry	27,000,000	1,250,000	Good...
Inkster Milk Depot	Inkster	Detroit Cry .....	.....	.....	Good...

Creameries.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good.				Good.			Fair.					
Good.	Good.			Good.	Fine.		Good.	Good.		Good.		91
Good.												
	Good.			Good.	Good.			Good.	Fine.	Fine.		91
	Good.			Good.	Fine.	Good.	Good.	Good.	Fine.	Good.		92
Clean.	Clean.	Clean.	Clean.	Clean.	Clean.		Good.		Good.	Good.	Good.	
Good.	Good.	Clean.		Clean.	Clean.		Good.	Clean.	Good.	Good.	Good.	

Inspection of

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make butter, pounds.	Sanitary surround- ings.
Newaygo County, December:					
Blue Line Creamery Co.	White Cloud	B. C. Martin		80,000	Fine...
Holland Crystal Creamery Co.	Sitka	Jno. Wilson			Good...
Holland Crystal Creamery Co.	Brookside	Dan Mulligan			Good...
Jackson County, December:					
Hanover Creamery	Hanover	J. B. Rowe		48,000	Good...
Tuscola County, December:					
Mich. Creamery Co.	Melvin	J. C. Welch			Good...
J. F. Cartwright & Sons	Mayville	Ed. Cartwright			Good...
J. F. Cartwright & Sons	East Dayton	J. A. Perkins			Good...
Mayville Creamery Co.	Mayville	Geo. Gormson		100,000	Good...
Gogebic County, December:					
A. C. Buss Creamery	Ironwood	A. C. Buss		200,709	Good...
Ottawa County, December:					
Holland Crystal Creamery	Holland	C. J. Lokker	2,000,000	200,000	Fine...
Muskegon County, December:					
Dalton Creamery	Muskegon	E. J. Peterson		190,547	Good...
Livingston County, December:					
Fowlerville Milk Depot	Fowlerville	Towar's Wayne Co. Creamery			Good...
Cass County, December:					
Marcellus Creamery	Marcellus	Geo. Sunday		107,300	Good...
Sanilac County, December:					
Equity Creamery Co.	Sanilac	John Ross			Good...
Equity Creamery Co.	Brown City	John Ross		228,000	Good...
Pt. Huron Creamery Co.	Sanilac	Bert Lee			Good...
Michigan Creamery Co.	Brown City	A. J. McMillan			Good...
Kent County, December:					
Boyland Creamery	Sparta	E. W. Smith			Good...
Sparta Creamery	Sparta	J. W. Spangenberg			Good...
Sanitary Milk Co.	Grand Rapids	C. Smith		500,000	Good...
Van Buren County, December:					
Lawrence Creamery Co.	Lawrence	Dana Bennett		169,000	Good...
Fox River Butter Co.	Lawrence	Fox River Butter Co.			Good...
Lapeer County, December:					
Michigan Creamery Co.	Brown City	Burnside Merc. Co.			Good...
Clifford Cheese & Butter Co.	Clifford	C. H. Wilson			Good...
Shiawassee County, December:					
Durand Creamery Co.	Cohoctah	W. E. Miller		10,000	Good...
Swift & Co.	Cohoctah	Ed. Pratt		5,000	Good...
Durand Creamery Co.	Durand	J. C. Bender		1,200,000	Good...

Creameries.

Sample Lotties.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteur- izer.	Vats.	Skin milk tank.	Piping.	Churn.	Engine.	Boiler.		
Good ..					Fine ..		Good..	Fine ..	Good..	Good..		92
75				Clean	Clean ..		Fair ..	Clean ..	Good..	Good..		
25												
100	Good..		Good..	Good..	Fine ..		Good..	Good..	Good..	Good..		91
10												
140					Fine ..		Good..	Good..				91
60	Good ..			Good..								
200	Good..	Good..	Good..	Fair ..	Fine ..		Good..	Good..				90
50					Good..	Good..	Poor ..		Fair ..			90
					Clean ..				Good..			
200	Clean ..						Good..	Good..	Good..	Good..		91
200	Good..			Good..	Fine ..		Good..	Fine ..	Good..	Good..		90
10												
100				Good..	Fine ..			Good..	Good..	Good..		90
100					Good..		Good..	Fair ..		Good..		90
200			Good..	Good..	Fine ..			Good..		Good..		90
100				Fine ..		Good..	Good..					90
1000	Good..			Clean ..	Clean ..		Good..	Clean ..	Good..	Good..		93

Inspection of

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Calhoun County, December:					
Athens Cream Station.....	Athens.....	Jackson City Cry.....			Good.
Athens Creamery.....	Athens.....	J. J. Snyder.....		103,000	Fair.
Milk Producers Co.....	Battle Creek.....	F. W. Sullivan.....	4,225,000		Good.
Raymond & Rice.....	Battle Creek.....	Raymond & Rice.....	1,800,000		Good.
Kalamasoo County, December:					
Climax Creamery.....	Climax.....	Arthur Zingill.....		110,000	Good.
H. H. Snyder Cream Station.....	Climax.....	H. H. Snyder.....			Good.
Vicksburg Cream Station.....	Vicksburg.....	Dairymens Milk Co.....			Fair.
Scotts Cream Station.....	Kalamasoo.....	Climax Creamery.....			Good.
Bishop Creamery.....	Kalamasoo.....	Vicksburg.....		61,600	Good.
Oakland County, December:					
Pontiac Co-Op. Creamery.....	Pontiac.....	F. C. King.....	1,040,000	83,000	Good.
Crouse & Parshall Cream Station.....	Holly.....	Crouse & Parshall.....			Fair.
Towars Cream Station.....	Holly.....	Towar's Creamery.....			Good.
Wixom Milk Depot.....	Wixom.....	A. H. Smith.....	90,000		Good.
Genesee County, December:					
Durand Creamery Co.....	Linden.....	Durand Cry. Co.....			Good.
Linden Cream Station.....	Linden.....	Parshall & Crouse.....			Good.
Fenton Creamery.....	Fenton.....	Parshall & Crouse.....	210,183		Good.
Wayne County, December:					
Cherry Hill Skimming Station.....	Cherry Hill.....	Ypsi. Dairy Assn.....			Good.
Cherry Hill Milk Depot.....	Cherry Hill.....	Detroit Creamery Co.....			Good.
Bell Branch Milk Station.....	Dearborn.....	John Schlaff.....			Good.
Mill Road Milk Station.....	Mill Road.....	John Schlaff.....			Good.
Washtenaw County, December:					
Ypsilanti Dairy Assn.....	Ypsilanti.....	S. A. Wiard.....	8,916,496	405,315	Good.
Wurster Bros. Creamery.....	Ann Arbor.....	J. Wurster.....	1,800,000		Good.
Ann Arbor Creamery.....	Ann Arbor.....	Eaton & Allen.....		110,500	Good.

Creameries.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteur- izer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
25												
200	Good..				Clean..		Fair..	Clean..	Good..	Good..		90
50	Clean..			Good..	Clean..		Fair..	Fair..	Good..	Good..		
					Clean..		Good..		Good..	Good..		
125					Clean..		Good..	Clean..	Good..	Fair..		93
25												
15												
15												
125					Clean..		Good..	Clean..	Good..	Good..		90
25												
100	Clean..				Clean..		Good..	Clean..	Good..	Good..		93
35												
50												
15												
25												
200					Clean..		Good..	Clean..	Good..	Good..		92
75	Clean..	Clean..		Clean..	Clean..	Clean..	Clean..	Fair..	Good..	Good..		
500	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	Clean..	Good..	Good..		95
25				Clean..		Clean..	Good..	Clean..	Good..	Good..		
75				Clean..	Clean..		Good..	Clean..	Good..	Good..		91

Inspection.

Name.	Location.	Owner or manager.	Yearly milk receipts pounds.	Make cheese pounds.	Style.
Oakland County, November:					
Farmington Cheese Factory.....	Farmington....	F. M. Warner.....	2,518,000	253,080	Michigan cheddar
Powers Cheese Factory.....	Powers.....	F. M. Warner.....	1,280,000	129,000	Michigan cheddar
Tuscola County, December:					
A. L. Rice Cheese Co.	Silverwood....	A. L. Rice.....		100,000	Soft Mich. cheddar
Kent County, December:					
Kent City Cheese Factory.....	Kent City....	Peterson & Carlson.....	1,000,000	100,000	Soft Mich. skim
Oakland County, December:					
New Hudson Cheese Factory...	New Hudson..	Tower's Wayne Co.....			Soft Michigan...

Cheese Factories.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd mill.	Whey tank.	Rennet test.	Boiler.		
N. J. Eisenlord.....	Good.....	2, clean...	1, gang...	Joslin.....	Clean.....	.....	12 H. P.	Good.....	.....
B. C. Dennis.....	Good.....	2, clean...	1, gang...	Joslin.....	Clean.....	.....	10 H. P.	Good.....	.....
George Ellsworth.....	Good.....	2, clean...	Gang.....	.....	Clean.....	.....	25 H. P.	Good.....	.....
Peterson & Carlson.....	Good.....	2, clean...	1, gang...	Pohl.....	Fair.....	.....	15 H. P.	Good.....	Yea.
A. B. Robertson.....	Good.....	2, clean...	1, gang...	Barnard.....	Fair.....	Marshall.	15 H. P.	Good.....	No.

Inspection of City Milk Supply.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent but-ter fat.	Lactometer.	Total solids.	Solids not fat.
Demmon, November:											
Jacob Manley.....	90	90	90	95	100	465	Excellent.....	4.6	31.5	13.395	8.795
Gladstone, November:											
Mrs. M. W. Skelton.....	93	80	80	90	100	443	Good.....	4.2	32.	13.04	8.84
C. E. Stearns.....	85	70	75	90	85	406	Medium.....	4.	31.5	12.675	8.675
A. Williamson.....	95	85	90	90	100	460	Good.....	4.2	32.	13.04	8.84
Laurium, November:											
Eric Korbi.....	89	75	80	90	80	414	Medium.....	.....	.....	.....	.....
Henry Liviska.....	86	85	80	95	100	446	Good.....	4.2	31.	12.79	8.59
Chas. Lundstrom.....	100	85	85	95	100	465	Excellent.....	4.4	30.5	12.905	8.505
Lars Larson.....	83	75	75	95	80	413	Medium.....	.....	.....	.....	.....
E. J. Moyle.....	86	80	70	95	75	406	Medium.....	.....	.....	.....	.....
Eric Nicoli.....	88	80	85	85	80	413	Good.....	4.2	31.	12.79	8.59
Nick Oysti.....	88	80	85	95	85	433	Good.....	4.2	31.	12.79	8.59
Peter Papin.....	88	90	75	95	85	433	Medium.....	4.8	31.	13.51	8.71
Jos. Tomesek.....	86	60	70	80	75	371	Poor.....	.....	.....	.....	.....
Christ Trevarrow.....	77	60	65	80	75	357	Poor.....	4.	32.	12.8	8.8
Maunisticque, November:											
Oscar Anderson.....	90	85	80	90	100	445	Good.....	.....	.....	.....	.....
Jno. Blomquist.....	100	80	70	85	80	416	Medium.....	.....	.....	.....	.....
Jno. Brinks.....	88	90	75	95	85	433	Medium.....	4.	31.	12.55	8.35
Mrs. F. Chernsky.....	88	70	75	85	80	398	Medium.....	3.6	32.5	12.44	8.445
Olo Hagquist.....	77	85	80	85	80	407	Medium.....	.....	.....	.....	.....
E. C. Lindroth.....	83	75	70	90	80	398	Medium.....	3.8	32.	12.56	8.76
Mrs. A. D. Smith.....	95	75	80	85	80	415	Medium.....	.....	.....	.....	.....
Olivet, December:											
Walter Goff.....	88	76	79	78	89	410	Medium.....	.....	.....	.....	.....
Ray Weaver.....	67	52	75	76	86	356	Poor.....	.....	.....	.....	.....
Ironwood, December:											
R. J. Tretheway.....	88	80	80	90	85	423	Good.....	.....	.....	.....	.....
John Bowden.....	95	90	85	95	85	450	Good.....	4.2	32.	13.04	8.84
Marcus Osterman.....	78	70	65	80	75	368	Poor.....	.....	.....	.....	.....
Jos. Pertilo.....	78	50	70	80	70	348	Poor.....	.....	.....	.....	.....
Fred Johnson.....	83	75	80	95	80	413	Medium.....	.....	.....	.....	.....
Aldrick Mikkola.....	83	85	85	90	90	433	Good.....	4.	32.51	12.925	8.925
Frank Jantila.....	77	65	75	80	90	387	Poor.....	3.8	31.5	12.435	8.635
John Johnson.....	90	90	80	90	100	450	Good.....	4.	32.	12.8	8.8
C. E. Johnson.....	85	80	90	90	100	445	Good.....	.....	.....	.....	.....
Escanaba, December:											
Peter Chollette.....	78	55	75	90	85	383	Poor.....	.....	.....	.....	.....
Alex. Johnson.....	90	95	85	90	85	445	Good.....	.....	.....	.....	.....
Wm. Vanenkevoort.....	77	65	75	80	85	382	Poor.....	.....	.....	.....	.....
Peter Blake.....	85	85	80	90	85	425	Good.....	.....	.....	.....	.....
Hodgkin Bros.....	87	80	85	85	100	437	Good.....	.....	.....	.....	.....
S. Sivertson.....	90	80	75	90	85	420	Medium.....	.....	.....	.....	.....
Ernest Holmgren.....	85	85	70	90	85	415	Medium.....	4.6	33.	13.77	9.17
M. Wolfe.....	65	63	80	85	85	375	Poor.....	4.2	31.	12.79	8.59
A. F. Nehls.....	78	60	80	85	85	398	Poor.....	4.2	33.	13.77	9.57
Jno. Ferguson.....	75	65	75	85	90	390	Poor.....	4.8	31.6	13.685	8.435
W. R. Roberts.....	90	80	80	80	90	420	Medium.....	.....	.....	.....	.....
Fred Schmelter.....	95	80	75	90	90	430	Medium.....	4.	32.5	12.935	8.935
H. C. Larson.....	82	60	80	80	85	387	Poor.....	.....	.....	.....	.....

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN.
DAIRY AND FOOD DEPARTMENT
LANSING.

JAMES W. HELME.....COMMISSIONER
BURR B. LINCOLN.....DEPUTY COMMISSIONER
FERN L. SHANNON.....STATE ANALYST
M. J. SMITH.....CHIEF CLERK
A. R. TODDDRUG ANALYST

PEOPLE VS. JACOB.

Opinion filed January 4, 1915.

STATE OFFICERS—DAIRY AND FOOD COMMISSIONER—INSPECTION OF PRISONS BY STATUTES—Act 12, P. A. 1905.

In the prosecution of the Superintendent of the Detroit House of Correction for his refusal to permit inspectors of the State Dairy and Food Department to inspect the prison;

HELD, (by an equally divided Court): Though the State Dairy and Food Commissioner is limited in his investigations to inspections of the store, etc., of the manufacturer or vendor of food or drink products which are made, stored, sold or offered for sale; as the Detroit House of Correction is paid by the different counties of the state for the board of prisoners sent to that institution under contract, it comes within the class that sells food, etc., and is amendable to the provisions of Act No. 12, P. A. 1905.

The inspection of state penal institutions is within the purview of the statute relating to the general Pure Food Law.

While the law provided for the inspection of penal institutions by the Board of Corrections and Charities (Sec. 2252, C. L. 1897) and in the case of the Detroit House of Correction, by the Board of Inspectors appointed by the Common Council of the City, the act creating the Detroit House of Correction (Sec. 2156, C. L. 1897) permits inspections by any state authority, of which the State Dairy and Food Department is one.

In an opinion by Justice Stone (Ostrander, Kuhn, Moore, JJ., concurring) the opposite view is taken.

Exceptions to recorder's court of Detroit. William F. Connolly, judge. Appeal of Bernhardt Jacob from a conviction for refusing to permit inspectors from the State Dairy & Food Department to inspect the Detroit House of Correction. Affirmed.

Grant Fellows, attorney general; James W. Helme, dairy and food commissioner, both of Lansing, for the people.

William E. Tarsney, assistant corporation counsel, (Richard I. Lawson, corporation counsel, of counsel), both of Detroit, for defendant.

Before the Full Bench.

STONE, J.

This case is before us upon exceptions before sentence. The appellant is the superintendent of the Detroit House of Correction, a state penal institution, located in the city of Detroit. On October 21, 1913, Burr B. Lincoln, a state dairy and food inspector, sought to make an investigation of the food conditions in the said institution, and for that purpose he called upon the appellant and requested that he be permitted to go through the building and see the foods that were there served. This request was refused by the appellant, who informed the inspector that he had no right there; that it was an institution over which the dairy and food inspectors had no jurisdiction, and that he could not go through the institution. Because of this refusal complaint was made

charging appellant with a violation of Act No. 167 of the Public Acts of 1899, being "An Act in relation to the powers and duties of the Dairy and Food Commissioner of the state of Michigan." This act provides that any person who shall obstruct the said commissioner, or his deputy, or any of his duly appointed inspectors, by refusing to allow him entrance to any place where he is authorized to enter in the discharge of his official duty, shall be guilty of a misdemeanor, and prescribes the punishment.

A hearing was had upon this complaint in the recorder's court, and the respondent and appellant was by the verdict of a jury, found guilty as charged.

The questions raised by the assignments of error, may be combined into the one question, namely: Has the Dairy and Food Commission, or its inspectors power, under the law, to investigate the food conditions of the Detroit House of Correction?

On the part of the people it is contended that ample power is vested in the inspectors of the Dairy and Food Commission to make such investigation, and that in view of the refusal of the superintendent to permit the making of the investigation, he had violated the act above referred to. Attention is called by the People to Chapter 76, Compiled Laws of 1897, under the provisions of which said institution was erected, and is controlled, and especially to Section 2156, which provides that:

"The management and direction of the said house of correction, subject to periodical inspection by the state authorities, in their discretion, shall be under the control and authority of a Board of Inspectors, to be appointed for that purpose by the Common Council of the City of Detroit upon the nomination of the mayor."

It is urged by the prosecution that under this section alone the state has a right to inspect the institution, and that the right of inspection by any state authority is here given; that authority to inspect this institution is made still plainer by the Pure Food Laws of the state; that Sec. 6 of the Act creating the office of Dairy and Food Commissioner and defining his powers and duties (C. L. 4978, as amended by Act 12, Pub. Acts of 1905), states that such commissioner, or his deputy, or any person appointed by him for that purpose,

"shall have power, in the performance of their duties, to enter into any creamery, factory, store, salesroom, drug store, or laboratory, or place where they have reason to believe food or drink are made, stored, sold or offered for sale and open any cask, tub, jar, bottle or package containing, or supposed to contain, any article of food or drink, and examine or cause to be examined the contents thereof, and take therefrom samples for analysis."

Attention is also called to Sec. 4 of the Amendatory Act of 1905, which provides that the inspectors shall have the same right to access to the places to be inspected as the said commissioner or his deputy.

A reading of the entire of Sec. 6, above referred to, shows that the Dairy and Food Commissioner, his deputy or inspectors, shall regulate filthy and unsanitary conditions which may exist in the operation of any bakery or other places where "any food or drink products are manufactured, stored, deposited or sold for any purpose whatever."

It was admitted upon the trial of the case that a bakery was maintained in the institution to bake bread for the prisoners, at the time complained of.

Sec. 5029, Compiled Laws of 1897 makes it the duty of the Dairy and

Food Commissioner of the state to investigate all complaints for violations of the act known as the General Pure Food Law, and especially it is made the duty of the food inspectors in the cities to examine all complaints made to them of violations of the act.

On the part of the defendant and appellant it is contended that the act creating the State Dairy and Food Commission, and the amendments thereto, together with Act No. 167 of the Public Acts of 1899, did not confer the right upon the State Dairy and Food Commission or its inspectors to inspect the food conditions of a public or state institution such as the Detroit House of Correction.

It is urged by defendant's counsel that, by the terms of the act creating it, the institution is used for the confinement, punishment and reformation of criminals, or persons sentenced thereto, under the laws authorizing the confinement of convicted persons in the House of Correction; that the management and direction of the said House of Correction subject to periodical inspection by the state authorities is, by statute, placed under the control and authority of a board of inspectors appointed by the common council of the city of Detroit upon the nomination of the mayor; that this board of inspectors is authorized and empowered by the common council to make rules for the regulation and discipline of the House of Correction, and to appoint a superintendent; that under the statute the superintendent has entire control and management of all its concerns subject to the authority established by law, and the rules and regulations adopted for its government.

It is contended by the appellant that the Detroit House of Correction is not any one of the places named in which the state dairy and food commissioner or his inspectors are authorized to enter; that the institution is not a creamery, factory, store, etc., or a place where the inspectors would have reason to believe food and drink are made, stored and offered for sale, within the meaning of the statute.

An examination of the statutes relevant to this subject has led us to the conclusion that the public penal institutions of this state, including the Detroit House of Correction, are not within the purview or terms of the statute relating to the General Pure Food Law. The legislature has provided a visitorial board whose duty it is to inspect these institutions and make due report thereon. As early as 1871 provision was made for a commission to be appointed, subsequently called "The Board of Corrections and Charities," of which the governor is ex officio a member. Sec. 2252, Compiled Laws reads as follows:

"The said commissioners, by one of their number, or by their secretary, shall, at least once in each year, visit and examine into the condition of each and every of the city and county poorhouses, county jails, or other places for the detention of criminals or witnesses and the said board or a majority thereof, with their secretary shall, at least once in each year, visit and examine the reform school, state prison, Detroit house of correction, and state and county asylums for the insane, and the deaf, dumb and blind, and for the purpose of ascertaining the actual condition of the institutions by them or either of them visited, the method of instruction, government, or management therein pursued, the official conduct of the superintendents or other officers and employees in charge thereof, or connected therewith, the condition of the buildings, grounds, or other property thereunto belonging, and the facts as to all other matters in any manner pertaining to the usefulness and proper management of the institutions, poorhouses, and jails above named. They, or either of them, and their secretary, shall have free access thereto at any and all times, and shall have authority to administer oaths and examine any person or persons in any way connected with or hav-

ing knowledge of the condition, management, and discipline of such institutions, jails, or poorhouses, as to any matters or inquiries not contrary to the purposes or provisions of this act."

Attention is called to the remaining portions of this statute.

An examination of the statutes relating to the government of the state prisons and reformatories, the powers and duties of the boards of control and of the wardens of the institutions, will show that these officers have plenary power and control over all matters relating to the government of the institutions, including food, medicine, clothing, bedding, etc.—everything which pertains to the health and well-being of the inmates. With these ample provisions, and the added power of visitation lodged in the Board of Corrections and Charities, it does not seem to us that it was the intention of the legislature that this ground was also to be covered by the Dairy and Food Commission. In our opinion, that commission has no jurisdiction over these institutions, but its right to inspect is limited to the store, etc., of the manufacturer or vendor of food or drink products, which are made, stored, sold or offered for sale to the general public.

It will be noted that the language relied upon by the People in the Amendatory Act of 1905, defining the several places, where inspection may be made by the dairy and food commissioner, is specific in designating certain places, to-wit: Creamery, factory, store, salesroom, drug store or laboratory, followed by the general words, "or places where they have reason to believe food or drink are made, stored, sold or offered for sale." This general language must be construed as meaning places of the same kind, of the same general character or sort as those named.

Although it appears in this record that the Detroit House of Correction bakes its own bread for its inmates, and for that purpose may be said to operate a bakery, yet it does not seem to us that such a place can be covered by any of the specific words mentioned. Certainly it is not a creamery, factory, store, salesroom, drug store or laboratory, as those words are used in the statute. The general rule should here apply that when after the enumeration a statute employs some general term to embrace other cases, the other cases must be understood to be cases of the same general character, sort, or kind, with those named. In other words, "they are known from their associates."

Brooks vs. Cook, 44 Mich., 617-619, and cases cited;
 Roberts vs. City of Detroit, 102 Mich., 67;
 Drake vs. Industrial Works, 174 Mich., 662.

We are, therefore, forced to the conclusion that the Detroit House of Correction—a state penal institution, with its superintendent, and its board of inspectors, subject to the visitation of the Board of Corrections and Charities—is not embraced within, and was not intended to be embraced within, the provisions of the Pure Food law, and that the inspector had no authority to enter the premises. Whenever the legislature desires to clothe the Pure Food Commission with such authority it will doubtless so express itself. We think it has not done so in the past legislation. Reaching this result, that conflict in jurisdiction of the different boards, which would lead to an unseemly contest, is avoided. The conviction must therefore be reversed, and the defendant discharged.

Ostrander, Kuhn and Moore, JJ., concurred with Stone, J.

BROOKE, C. J.

My Brother Stone in the earlier part of his opinion states very clearly the contentions made on behalf of the people in this case. It is claimed that the dairy and food commissioner, or his deputy, is authorized to make the inspection which was denied, upon two grounds:

1st. Under the act creating the Detroit House of Correction, Sec. 2 (C. L. 1897, Sec. 2156), which provides:

"The management and direction of the said house of correction, subject to periodical inspection by the state authorities in their discretion, shall be under the control and authority of a board of inspectors, to be appointed for that purpose by the common council of the city of Detroit."

It is claimed on behalf of the people that this language used in the law of its creation is broad enough to warrant the inspection of said institution by ANY state authority. In my opinion the contention is fully warranted by the language used. It would be difficult to select words of more general import than those used in the statute:

"subject to periodical inspection by the state authorities in their discretion."

No particular state authority is pointed out, nor is the right of inspection limited to any such particular authority. There is no doubt that included among the state authorities entitled to the right of inspection is the State Board of Charities. It, however, by no means follows that the exercise of the right by that board exhausts the authority of the state under the language of the section above quoted. It seems to me clear that the labor department might very properly inspect the institution to determine whether proper safety devices were employed as provided by the general laws of the state touching that subject. The State Board of Health, too, should have authority to inspect and determine whether the laws relating to sanitary conditions were being obeyed therein. And closely akin to the necessity for such inspection is the necessity for inspection by the State Dairy and Food Department in order that it may be determined that the food served is wholesome in quality.

It should be borne in mind that the institution is one of considerable magnitude within the walls of which are confined several hundreds of prisoners, male and female. The female prisoners therein are boarded at the expense of the state and many counties of the state having individual contracts with the institution, by the terms of which a per diem amount is paid for the board and medical attendance of each prisoner. Several industries are carried on in the institution requiring the use of machinery. In my opinion, it is an institution peculiarly requiring the supervision of every department of the state whose activities are directed to securing to the inhabitants thereof sanitary conditions, wholesome food, and freedom from danger to life and limb through the use of improperly guarded machinery.

If there could be any doubt of the right of the people to insist that the dairy and food commissioner, or his deputies, is authorized to make the inspection which was denied in the instant case, it is disposed of by a reading of Section 6 (C. L., 1897, Sec. 4978), of the law creating that department. That section authorizes the entry of the commissioner, or his deputies, to certain named places and,

"or places where he had reason to believe food or drink is made, stored, sold or offered for sale.

In my opinion it is idle to say that the House of Correction is not such a place. Whatever may be said of other penal institutions of the state, this particular institution stores food in large quantities, which it sells. The record shows that during the year it received the very considerable sum of \$32,659.00 for the board of prisoners confined therein.

It is, in a sense, in the business of selling food. The fact that its customers happen to be the state itself and several political divisions of the state, makes no difference in the principle involved. It would, I think, scarcely be contended that a hotel, keeping, store, and offering food for sale to its guests was not subject to the inspection provided for in the act creating the Dairy and Food Department. In any event I think such a construction of the legislation is too narrow and I quite agree with the opinion expressed by the learned judge who, in refusing to charge as requested by the respondent, said:

"I refuse to give this request to charge, gentlemen of the jury, upon the ground that it is my opinion that the spirit of the Dairy and Food Law is to procure and secure proper food and drink for all of the inhabitants of the state. That is its general purpose and scope. And that the terms of the act creating the Dairy and Food Commission, the acts amendatory thereto, are broad enough to include the Detroit House of Correction and all other penal institutions."

The judgment of the court below should be affirmed.

McAlvay, Bird and Steere, JJ., concurred with Brooke, C. J.

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of January and February, 1915:

Adrian, Alma, Ann Arbor, Alpena, Applegate, Ashley, Bad Axe, Baltic, Battle Creek, Bay City, Belding, Bellaire, Birmingham, Boon, Boyne Falls, Bronson, Burr Oak, Byron, Cadillac, Calumet, Cedar Springs, Channing, Charlotte, Cheboygan, Chesaning, Clarenceville, Climax, Clinton, Coldwater, Coleman, Colon, Columbiaville, Crapo, Crystal Falls, Davisburg, Demmon, Detroit, Durand, Elmdale, Flint, Fountain, Fowlerville, Franklin, Frederick, Gaylord, Grand Ledge, Grand Rapids, Grayling, Greenville, Grosse Pointe, Hancock, Hart, Hastings, Hemlock, Henderson, Highland Park, Hillsdale, Holly, Homer, Howell, Ionia, Indian River, Iron Mountain, Iron River, Ishpeming, Ithaca, Jackson, Johannesburg, Jones, Kalamazoo, Laingsburg, Lakeview, Lansing, Mancelona, Mason, Morley, Muskegon, New Haven, North Adams, Okemos, Oia, Orleans, Owosso, Painesdale, Palatka, Paris, Pigeon, Plymouth, Pompeii, Port Huron, Quincy, Reed City, Republic, Richmond, Roscommon, Royal Oak, Saginaw, St. Louis, Sault Ste. Marie, South Boardman, South Range, Stambaugh, Stanton, Sugar Island, Tekonsha, Topinabee, Traverse City, Trimountain, Ubyly, Union City, Utica, Watersmeet, Wayne, West Branch, Whittemore, Williamston, Winona, Wyandotte.

PROSECUTIONS.

Since beginning of fiscal year July 1, 1914.

Cases pending July 1, 1914	36
Cases commenced since said date	232

CASES DISPOSED OF.

Before examining magistrates:	
Defendants bound over	48
Defendants discharged	20
In trial courts:	
Defendants convicted	184
Defendants acquitted	9
Cases pending March 1, 1915	55

In the case pending in supreme court against Bernhardt Jacob, superintendent of the Detroit House of Correction, charged with obstructing inspectors in the performance of their duties. January 4, 1915, the conviction in recorder's court in and for the city of Detroit was affirmed.

In the case pending in circuit court, county of Schoolcraft, against John James charged with selling one bushel of potatoes short weight. January 6, 1915, defendant acquitted.

In the case pending in circuit court, county of Antrim, against John Bachi charged with selling sausage containing cereal and not stamping same. February 9, 1915, defendant entered a plea of guilty. Sentence pending.

In the case pending in justice court, city of Lake Odessa, against B. Haddix charged with selling sausage containing cereal not stamped. January 25, 1915, defendant was acquitted.

In the case pending in circuit court, county of Crawford, against Frank H. Milks charged with selling sausage containing excessive cereal. January 12, 1915, defendant acquitted.

In the case pending in circuit court, county of Crawford, against Chas. Wilcox charged with serving oleomargarine without displaying sign. January 13, 1915, defendant acquitted.

In the case pending in justice court, city of Alpena, against August Kannowski charged with refusing to give or sell sample for analysis. January 15, 1915, defendant entered a plea of guilty. Fined \$25.

In the case pending in circuit court, county of Crawford, against C. Asa Travis charged with selling sausage containing an excessive amount of cereal. January 12, 1915, defendant acquitted.

In the case pending in justice court, city of Sault Ste. Marie against Sam Winburg charged with selling cloth short measure. Defendant entered a plea of guilty. Fined \$25 and costs.

In the case pending in police court, city of Muskegon, against Henry Rosema charged with the sale of unwholesome veal. Defendant entered a plea of guilty. Sentence pending.

Complaint was made January 5, in justice court, city of Ithaca against Clem Brewer charged with selling sausage containing excessive cereal. Defendant was bound over to circuit court for trial. Case pending.

Complaint was made January 7 in justice court, city of Sault Ste. Marie against John H. Roe charged with selling sausage containing cereal and not stamping same. Case pending.

Complaint was made January 7 in justice court, city of Sault Ste. Marie against Tom Thomas charged with selling lard compound without stamping same. Defendant entered a plea of guilty. Sentence pending.

Complaint was made January 7 in justice court, city of Sault Ste. Marie against Acre Trocrido charged with selling renovated butter without stamping same. February 2, defendant entered a plea of guilty. Sentence pending.

Complaint was made January 8 in justice court, city of Calumet, against Mile Bozanich charged with conducting an insanitary dairy. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made January 9 in justice court, city of Kalamazoo, against Walter H. Gray charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made January 9, in justice court, city of Kalamazoo, against E. C. Whiteneck charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made January 11 in justice court, city of Kalamazoo, against Esten Platt charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$15 and costs.

Complaint was made January 13 in justice court, city of Escanaba, against Martin Henrickson charged with selling cream below the legal standard. Defendant entered a plea of guilty and was fined \$25 costs. Remitted.

Complaint was made January 15 in justice court, city of Iron Mountain, against Casper Rendl charged with selling adulterated milk. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made January 15, in police court, city of Detroit, against Michael Miller charged with selling illegal veal. Case dismissed.

Complaint was made January 15 in justice court, city of Alpena, against Frank C. Holmes & Son charged with selling food in package form without stamping net weight thereon. Case pending.

Complaint was made January 16 in justice court, city of Iron Mountain, against Wm. Burt charged with selling oleomargarine for butter. Bound over to circuit court for trial. Case pending.

Complaint was made January 18 in justice court, city of Iron Mountain against W. H. Scandling charged with selling one quart of cranberries short measure. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted.

Complaint was made January 18 in justice court, city of Iron Mountain, against Nelson & Carlson charged with selling one quart cranberries which were short weight. Defendant entered a plea of guilty. Fined \$20 and costs. Fine remitted.

Complaint was made January 19 in justice court, city of Iron Mountain, against Guiseppe Nicolati charged with selling milk from an insanitary dairy. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made January 20 in justice court, city of Hillsdale, against E. C. Williams charged with selling Tr. Iodine not in conformity with U. S. P. requirements. Defendant waived examination. March 1, defendant entered a plea of guilty. Fined \$25.

Complaint was made January 25 in police court, city of Detroit, against Joseph R. Skrzycki charged with having in possession with intent to sell illegal veal. February 10, defendant acquitted.

Complaint was made January 25 in police court, city of Detroit, against Frank Patrzuski charged with having in possession illegal veal, with intent to sell. February 10, defendant convicted. Fined \$25.

Complaint was made January 25 in police court, city of Detroit, against Walter Galantowicz charged with having illegal veal in possession with intent to sell. February 10, defendant acquitted.

Complaint was made January 26 in justice court of Ironwood against Wm. Walter charged with selling sausage containing an excessive amount of cereal. Bound over to circuit court for trial. Defendant entered a plea of guilty and was fined \$100 and costs.

Complaint was made February 1 in municipal court, city of Kalamazoo, against Kirk N. Sherwood charged with selling insanitary milk. Defendant entered a plea of guilty. Fined \$30 and costs.

Complaint was made February 3 in justice court of Ithaca against Eli Raycraft charged with selling decomposed and rotten eggs. Case pending.

Complaint was made February 3 in justice court, city of Hastings, against Clark A. Barber charged with having in possession with intent to sell insanitary cream. February 16, defendant convicted. Fined \$25 and costs.

Complaint was made February 11 in justice court, city of Hancock, against Peter Erickson charged with selling milk from an insanitary dairy. Defendant entered a plea of guilty. Fined \$5 and costs.

Complaint was made February 13 in justice court, city of Calumet, against Anna Strutzel, clerk at Vertin Bros. & Co., charged with selling one peck of potatoes short weight. Defendant entered a plea of guilty. Fined \$20 and costs.

Complaint was made February 24 in justice court, city of Iron Mountain, against Alfred St. Arnold charged with selling sausage containing an excessive amount of cereal. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made February 24 in justice court, city of Bad Axe, against J. Pettinger charged with the sale of milk from insanitary cans. Defendant entered a plea of guilty. Fined costs.

Complaint was made February 24 in justice court, city of Bad Axe, against A. Watson charged with selling milk from insanitary cans. Defendant entered a plea of guilty. Fined costs.

Complaint was made February 24 in justice court, city of Bad Axe, against A. O. Berski charged with the sale of milk from insanitary cans. Defendant entered a plea of guilty. Fined costs.

Complaint was made February 24 in justice court, city of Bad Axe, against Wm. Carr charged with selling milk from insanitary can. Defendant entered a plea of guilty. Fined costs.

Complaint was made February 25 in justice court of Iron River, against Joseph Parolari charged with selling sausage containing an excessive amount of cereal. Bound over to circuit court for trial. Case pending.

March 1, 1915.

Hon. James W. Helme, State Dairy and Food Commissioner Lansing, Michigan.

I herewith beg to report on the work done in the Department Laboratory during the months of January and February 1915.

We examined and reported on a total of 299 samples. We classed 198 of them as complying with the statute and 101 in violation of the Food Laws, for being either adulterated or misbranded or forming a part of an illegal sale.

It will be noted that we examined 67 samples of butter. This is an

unusually large number of samples of this commodity. This number is accounted for by the fact that the Laboratory has now taken over as a permanent feature, the analysis of the samples of butter submitted by the judges in the educational scoring contests conducted by the Dairy Division of the Département. We have heretofore made a number of analyses of butter for this Division in an emergency when the work could not be done by those connected with the Dairy Division. Owing to the increased importance of the educational scoring contests it was thought advisable to make the analysis of these samples obtained in the contest official, therefore the Laboratory has made this a part of its duties.

We examined 14 samples of cranberries. Thirteen of them were not passed. It seems that it has long been the practice of cranberry jobbers and dealers to sell cranberries to the retailer by the barrel, putting 100 lbs. in a barrel. The consumer, on the other hand, naturally refers to cranberries and like commodities in terms of quarts and pints instead of pounds and ounces. The retailer in order to come out whole on a barrel has therefore been put to the necessity of selling cranberries by the liquid quart. This having become quite an established custom, we find most of the samples of cranberries are secured in this manner. Cranberries are a dry commodity and under the terms of the net weight and measure clause, should be measured by the dry quart or by the pound. A liquid quart of cranberries weighs approximately one pound while a dry quart of cranberries, according to the Michigan statute, of 40 lbs. per bushel, weighs 1 lb. and 4 ounces. It will be noted that 13 of the samples submitted were sold by the quart and were measured in a liquid quart.

We examined 12 samples of lard, five of them were adulterated for the reason that they contained cotton seed oil and beef tallow and were therefore not a pure lard. Two of them were misbranded in not having the net weight stamped or printed on the container in which they were sold.

The sample of meat that was found to be tainted is only one of a number of samples submitted. This being the only official sample, is the only one published in this report. This meat when cooked had an odor like that of a disinfectant, although a chemical examination of the meat itself did not reveal any added substance. I am told that agents of the packers have explained that the meat became tainted due to the use of disinfectants around the stock yards and packing houses in combating the recent outbreak of the foot and mouth disease. Unofficial samples received from other parts of the state about the same time this sample was received revealed the same condition. It seems quite probable that the explanation given above accounts for the condition this meat was in. It is my understanding that all of the tainted meat that came into Michigan was collected by the packers and destroyed.

One hundred twenty-nine samples of milk were examined. The greater portion of these were collected by an Inspector of the Department from some of the registered Holstein herds of Livingston County. These samples were taken from the individual cows in the presence of an inspector. A complete analysis of each sample was made in this Laboratory for the purpose of collecting data to determine upon a minimum

standard for milk that would not exclude milk that was obtained from herds of this breed. Some valuable data was collected; it is hoped to continue the experimental work on samples of this sort and publish the detailed results in bulletin form.

Respectfully yours,
F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Beans.....	1	1	0
Butter.....	67	63	4
Candy.....	1	1	0
Canned fruit.....	1	0	1
Cinnamon.....	1	1	0
Cranberries.....	14	1	13
Cream.....	3	1	2
Flavoring preparations.....	6	1	5
Flour.....	2	0	2
Hamburg steak.....	8	7	1
Horse radish.....	1	1	0
Lard.....	12	4	8
Meat.....	7	6	1
Milk.....	129	103	26
Milk cans.....	4	0	4
Nuts.....	4	0	4
Oleomargarine.....	2	0	2
Oysters.....	3	2	1
Pop corn.....	1	1	0
Potatoes.....	7	1	6
Sausage.....	15	2	13
Soup.....	1	0	1
Syrup.....	8	2	6
Vinegar.....	1	0	1
Totals.....	299	198	101

ANALYSES OF SAMPLES.

BUTTER.

No. 31679, I-410. Sample of "butter" procured from James Davern of the Canadian News Co., Durand. Product is oleomargarine artificially colored.

No. 31687, V-11. Sample of cooking butter procured from Goudie Market Co., Detroit. Product is renovated butter.

No. 31853, G-1158. Sample of "butter" procured from William Burt. Iron Mountain. Product is oleomargarine artificially colored.

No. 31854, G-1162. Sample of "butter" sold by Elgin Butter Market. Lewis, Morris, 2235 W. Lake St., Chicago, Prop., and procured from Wm. Burt, Iron Mountain. Product is oleomargarine artificially colored.

CANNED FRUIT.

No. 31701, G-1160. Sample of Hillsdale brand Canned Pineapple manufactured by the Emery Food Co., Chicago, and sold by E. M. Lieblin, Calumet. Misbranded in that the word "about" is used in connection with the statement of net weight. Short weight.

CRACKERS.

No. 31826, I-460. Sample of Aztec Crackers manufactured by the Aikman Baking Co., Port Huron, and procured from Lewis H. Cooper, Fowlerville. Misbranded in that the net weight of contents is not stated on the package.

CRANBERRIES.

No. 31700, G-1159. One quart cranberries procured from Henry Simonen, Calumet. Sample is not a full quart. Evidently measured in a liquid quart measure.

No. 31742, I-415. One quart cranberries procured from Ella E. Butler, Jackson. Short measure. Measured in liquid quart instead of dry quart measure.

No. 31745, I-418. One quart cranberries procured from B. D. Legg, Jackson. Short measure. Measured in liquid quart instead of a dry quart measure.

No. 31748, I-420. One quart cranberries procured from Richard Howland, Jackson. Short measure. Measured in liquid quart instead of a dry quart measure.

No. 31750, I-422. One quart cranberries procured from Myron Stillwell, Jackson. Short measure. Measured in liquid quart instead of a dry quart measure.

No. 31751, I-423. One quart cranberries procured from W. Kilgallin & Co., Jackson. Measured in a liquid quart instead of a dry quart measure.

No. 31752, I-424. One quart cranberries procured from Wm. H. Meder, Jackson. Short measure.

No. 31820, I-454. One quart cranberries procured from John B. Hagerman, Fowlerville. Sample measured in liquid quart instead of a dry quart measure.

No. 31821, I-455. One quart cranberries procured from Claude Goodrich, Fowlerville. Sample consists wholly or in part of decomposed vegetable substance.

No. 31910, I-476. One quart cranberries procured from Sol Schluchter, Pigeon. Sample measured in a liquid quart instead of a dry quart measure.

No. 31915, I-479. One quart cranberries procured from Joe Crosse, Hillsdale. Sample measured in a liquid quart instead of a dry quart measure.

No. 31935, G-1168. One quart cranberries procured from W. H. Scandling, Iron Mountain. Sample was measured in a liquid quart instead of a dry quart measure.

No. 31936, G-1170. One quart cranberries procured from Nelson & Carlson, Iron Mountain. Sample was measured in a liquid quart instead of a dry quart measure.

CREAM

No. 31869, G-1163. Sample of cream from Mrs. John Johnson, Daggett. Butter fat 16.25%. Below legal standard in butter fat.

No. 31870, G-1164. Sample of cream from Robert Larson, Daggett. Butter fat 16.0%. Below legal standard in butter fat.

FLAVORING PREPARATIONS.

No. 31681, I-412. Samples of vanilla and lemon extracts manufactured by C. F. Saur Co., Richmond, Va., and procured from Sacks & Brock, Durand. Misbranded in that the net volume is not stated on the label.

No. 33014, I-490. Sample of Old Dutch brand Imitation Vanilla manufactured by the Wabash Baking Powder Co., Wabash, Ind. Net contents not stated on the label. Misbranded.

No. 33015, I-491. Sample of Old Dutch brand Imitation Lemon manufactured by the Wabash Baking Powder Co., Wabash, Ind. Net contents not stated on the label. Misbranded.

No. 33023, I-492. Sample of Seely's Extract of Lemon sold by the Feilbach Co., Toledo, and procured from W. E. Scott, Ann Arbor. Net contents not stated on the label. Misbranded.

No. 33025, R-24. Sample of Galco "A" Vanilla manufactured by E. B. Gallagher & Co., Detroit. Not properly labeled as imitation vanilla.

FLOUR.

31908, 1-474. Sample of White Rose Flour manufactured by the Pigeon Milling Co., Pigeon. Short weight.

31909, 1-475. Sample of White City Flour manufactured by the Pigeon Milling Co., Pigeon. Short weight.

HAMBURG STEAK.

No. 31827, V-12. Sample of Hamburg Steak manufactured and sold by Wm. Wilkins, 942 Chene St., Detroit. Sulphites 11%. Product contains added sulphurous acid or salts thereof.

LARD.

No. 31500, I-393. Sample of lard procured from David Mott, Wayne. Labeled "Pure Kettle Rendered Lard." Sample contains a small amount of beef fat and net weight is not stated.

No. 31593, G-1157. Sample of lard put up by Cudahy Packing Co., Sioux City, Iowa. Product is lard compound not properly labeled.

No. 31674, I-405. Sample of lard procured from Bert Eckert, Alma. Not a pure lard.

No. 31675, I-406. Sample of lard procured from Cook & Nelson, Durand. Not a pure lard.

No. 31754, I-426. Sample of lard procured from Aaron Hughes, Jackson. Misbranded in that the net weight is not stated on the pail.

No. 31824, I-458. Sample of lard procured from Copeland and Griffin, Fowlerville. Not a pure lard.

No. 31913, I-477. Sample of lard from W. W. Ostrom, North Adams. Misbranded in that the net weight was not stated on the pail.

No. 31914, I-478. Sample of lard from Joe Crosse, Hillsdale. Not a pure lard.

MEAT.

No. 33022, I-493. Sample of pork procured from Armour & Co., Ann Arbor. Unfit for human consumption for the reason that it consists wholly or in part of an infected and tainted animal substance.

MILK.

No. 31533, P-1374. Sample of milk procured from Kalamazoo Creamery Co., Kalamazoo. Below standard in specific gravity and total solids. Contains about 9% added water.

No. 31534, P-1375. Sample of milk sold by the Kalamazoo Creamery Co., Kalamazoo, and procured from E. B. Russell, Kalamazoo. Below standard in specific gravity and total solids. Contains about 9% added water.

No. 31543, P-1384. Sample of milk sold by the Kalamazoo Creamery Co., Kalamazoo, and procured from the Cooperative Grocery Co., Kalamazoo. Below standard in specific gravity and total solids. Contains about 9% added water.

Nos. 31611 31618, P-1389-P-1396. Samples of milk procured from W. H. Gray, Kalamazoo. Below standard in specific gravity and total solids. Contains from 17% to 32% added water.

No. 31646, P-1424. Sample of milk procured from E. C. Whiteneck, Kalamazoo. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 31648, P-1426. Sample of milk procured from Jas. Van Horn, Bloomingdale. Below standard in butter fat and total solids. A part of the cream had been removed.

Nos. 31709-31718. W-33-W-42. Samples of milk procured from W. H. Gray, Kalamazoo. Below standard in specific gravity and total solids. Contain from 18% to 27% added water.

No. 31721, W-45. Sample of milk procured from James Van Horn, Bloomingdale. Below standard in butter fat and total solids. A part of the cream had been removed.

No. 31954, I-482. Sample of milk procured from J. Ginthner, Bad Axe. Below standard in butter fat and total solids.

MILK CANS.

No. 31973, I-484. Milk can procured from A. O. Berski, Ubly. Open seams full of filth.

No. 31974, I-485. Milk can procured from Alex Watson, Ubly. Open seams full of filth.

No. 31975, I-486. Milk can procured from John Pettinger, Ubly. Open seams full of filth.

No. 31976, I-487. Milk can procured from Wm. Carr, Bad Axe. Open seams full of filth.

NUTS.

No. 31670, B-224. Sample of nuts sold by John Carroll, Bay City. Coated with iron oxide. Not salable.

No. 31683, P-1430. Sample of peanuts procured from the Hanselman Candy Co., Kalamazoo. Sample consists of worm-eaten nut meats and dirt. Unfit for food.

No. 31684, P-1432. Sample of pecans procured from the Hanselman Candy Co., Kalamazoo. Sample consists of old rancid nut meats, live insects and refuse. Unfit for food.

No. 31685, P-1431. Sample of peanuts procured from the Hanselman Candy Co., Kalamazoo. Sample consists of old rancid nut meats, live insects and refuse. Unfit for food.

OLEOMARGARINE.

No. 31950, B-233. Sample of oleomargarine procured from T. J. Smith & Son, Boyne City. No sign displayed. Illegal sale.

No. 32053, B-236. Sample of oleomargarine procured from Snell & Burns, Sugar Island. No sign displayed. Illegal sale.

OYSTERS.

No. 31678, I-409. Sample of oysters procured from Nathan B. Smith & Co., Durand. Oysters contain an excessive amount of water.

POTATOES.

No. 31743, I-416. One peck of potatoes procured from Ella E. Butler, Jackson. Two pounds and 2 ounces short weight.

No. 31744, I-417. One peck potatoes procured from Nessley Grocery Co., Jackson. One pound and 15 oz. short weight.

No. 31749, I-421. One peck potatoes procured from Fuller-Kirtland, Jackson. Two pounds and 12 oz. short weight.

No. 31753, I-425. One peck potatoes procured from Miss Anna Oberiesen, Jackson. Six oz. short weight.

No. 31822, I-456. One peck potatoes procured from J. Ashley, Fowlerville. Short weight.

SAUSAGE.

No. 31823, I-457. Sample of bologna sausage manufactured and sold by Copeland & Griffin, Fowlerville. Cereal 6.69%. Contains an excessive amount of cereal.

No. 31933, G-1166. Sample of pork sausage manufactured and sold by A. St. Arnold, Iron Mountain. Cereal 14.15%. Contains an excessive amount of cereal.

No. 31943, B226. Sample of pork sausage manufactured and sold by Arthur C. Ingersoll, Boyne City. Cereal 7.14%. Contains an excessive amount of cereal.

No. 31944, B-227. Sample of pork sausage in casings manufactured and sold by Arthur C. Ingersoll, Boyne City. Cereal 7.07%. Contains an excessive amount of cereal.

No. 31945, B-228. Sample of pork sausage manufactured and sold by John H. Lewis, Boyne City. Contains cereal. Package or product not stamped to indicate its presence.

No. 31947, B-230. Sample of pork sausage manufactured and sold

by Wm. A. Sack, Boyne City. Cereal 2.5%. Not properly labeled.

No. 31948, B-231. Sample of bologna sausage manufactured and sold by Wm. A. Sutton, Boyne City. Cereal 6.94%. Contains an excessive amount of cereal.

No. 31949, B-232. Sample of pork sausage in casings manufactured and sold by Wm. A. Sutton, Boyne City. Cereal 4.16%. Contains an excessive amount of cereal.

No. 32025, G-1172. Sample of pork sausage procured from the Morrison Mercantile Co., Iron River. Cereal 2.50%. Package or product not marked to indicate the presence of cereal.

No. 32026, G-1173. Sample of pork sausage manufactured and sold by Joseph Parolari, Iron River. Cereal 5.44%. Contains an excessive amount of cereal.

No. 32027, G-1174. Sample of pork sausage manufactured and sold by the Consolidated Mercantile Co., Stambaugh. Contains cereal. No statement on the label to indicate its presence.

No. 32080, B-238. Sample of bologna sausage manufactured and sold by Shaffner & Son, West Branch. Cereal 2.64%. Package or product not marked or stamped to indicate the presence of cereal.

No. 32081, B-239. Sample of bologna sausage manufactured and sold by B. H. Braman, West Branch. Cereal 3.67%. Contains an excessive amount of cereal.

SOUP CANS.

No. 31918, R-20. Samples of soup cans procured from Chas. E. Smith Co., Detroit. Cans show evidence of corrosion.

SYRUP.

No. 31671, F-225. Sample of Mt. Mansfield Syrup manufactured by the Bay State Maple Syrup Co., Boston. Percentages of ingredients not stated on the label. Misbranded.

No. 31938, F-227. Sample of Silver Seal Syrup manufactured by Boyle and Williams, Bradford, Pa. Net volume not stated. Misbranded.

No. 31939, F-228. Sample of Gilt Edge Syrup manufactured by Downing & Bullis, Nashville. Misbranded in that net weight is stated instead of volume. Net weight short $2\frac{1}{2}$ oz.

No. 31942, F-226. Sample of Golden Tree Syrup manufactured by the New England Maple Syrup Co., Boston, Mass. Misbranded in that the words "capacity" and "about" are used in stating volume.

No. 32077, F-231. Sample of Eclipse Syrup manufactured by W. H. Edgar & Son, Detroit. Misbranded. Net contents stated in terms of weight instead of volume.

No. 32078, F-232. Sample of Cadillac Syrup manufactured by W. H. Edgar & Son, Detroit. Net contents stated in terms of weight instead of volume.

VINEGAR.

No. 33031, G-1176. Sample of wine vinegar manufactured by Parodi & Ermenio, New York, and procured from A. Federichi, Hancock. Acidity 3.6%. Low in acidity.

TEST OF INDIVIDUAL COWS DURING THE MONTH OF FEBRUARY.

The head of this Department determined to take up some samples of milk from individual cows and test the same for Butter Fat and Solids.

The report of the State Analyst which follows shows the results of these experiments. In each case the sample represents an individual cow, sample being taken by one of the Inspectors of this Department from the milk pail at the time of milking. Samples were all taken during the month of February.

When these samples arrived at the laboratory, a portion of each was submitted to the Bacteriologist of the State Board of Health, for examination as to germs of tuberculosis; no germs were found.

The following is the State Analyst's detailed report:

February 26, 1915.

Hon. James W. Helme, State Dairy and Food Department, Lansing, Michigan.

Dear Sir: Following are the analyses of the samples of milk collected from Holstein herds in Livingston County, by Inspector Heller and analyzed in this laboratory.

MILK FROM INDIVIDUAL COWS OF THE REGISTERED HOLSTEIN HERD OF M. J. McPHERSON, HOWELL, MICHIGAN.

Butter fat.—Per cent.	Total solids, per cent.
3.5	11.23
3.5	12.16
4.25	12.56
3.2	11.61
3.3	11.24
3.8	12.94
4.1	11.62
3.6	11.68
4.3	13.13
3.6	12.17
3.45	11.18
3.3	11.17
3.0	11.44
3.0	11.36
3.4	11.59
2.6	10.45
2.6	10.7
3.1	11.23
3.0	11.61
3.2	11.48
3.6	11.83
3.0	10.85
2.7	10.99

	Butter fat, per cent.	Total solids, per cent.
Maximum	4.3	13.13
Minimum	2.6	10.45
Average	3.35	11.58

MILK FROM INDIVIDUAL COWS OF THE REGISTERED HOLSTEIN HERD OF REX
REED, HOWELL, MICHIGAN.

Butter fat.—Per cent.	Total solids, per cent.
3.7.....	12.44
3.8.....	11.84
4.1.....	12.83
2.7.....	11.49
3.5.....	12.30
3.1.....	11.15
3.2.....	12.25
3.8.....	12.60
3.5.....	11.65
3.4.....	12.44
3.4.....	12.48
3.6.....	12.09

	Butter fat, per cent.	Total solids, per cent.
Maximum.....	4.1	12.83
Minimum.....	3.1	11.15
Average.....	3.48	12.12

MILK FROM INDIVIDUAL COWS OF THE REGISTERED HOLSTEIN HERD OF FRANK
EAGER, R. D., HOWELL, MICHIGAN.

Butter fat.—Per cent.	Total solids, per cent.
2.9.....	11.61
3.6.....	11.90
3.6.....	12.29
3.0.....	11.51
3.5.....	11.96
3.3.....	11.12
2.2.....	10.32
3.8.....	12.73
2.8.....	10.34
2.8.....	11.54

	Butter fat, per cent.	Total solids, per cent.
Maximum.....	3.6	12.29
Minimum.....	2.2	10.32
Average.....	3.15	11.53

**MILK FROM INDIVIDUAL COWS OF THE REGISTERED HOLSTEIN HERD OF JOHN
WORTHINGTON, R. D. 7, HOWELL, MICHIGAN.**

Butter fat.—Per cent.	Total solids, per cent.
3.9.....	13.25
3.0.....	11.45
2.9.....	11.85
3.8.....	13.08
3.2.....	11.20
2.9.....	10.58
4.9.....	14.59
4.1.....	12.52
3.7.....	12.63

	Butter fat, per cent.	Total solids per cent.
Maximum.....	4.9	14.50
Minimum.....	2.9	11.20
Average.....	3.6	12.35
ALL SAMPLES RECEIVED.		
Maximum.....	4.9	14.59
Minimum.....	2.2	10.45
Average.....	3.39	11.89

Laboratory of the State Board of Health reports:

All samples were tested for T. B. C. germs. None were found.

Very respectfully,

F. L. SHANNON,

State Analyst.

DRUG INSPECTIONS.

The following places were visited by the Department's drug inspection force during the months of January and February, 1915:

Akron, Albion, Alden, Applegate, Ashley, Athens, Bad Axe, Bangor, Bannister, Bath, Bellaire, Big Rapids, Bronson, Brooklyn, Brown City, Burr Oak, Byron, Cadillac, Capac, Caro, Carsonville, Cass City, Cedar, Chesaning, Clarkston, Coldwater, Colon, Corunna, Crosswell, Decatur, Deckerville, Detroit, Durand, East Jordan, Edwardsburg, Elk Rapids, Elkton, Elsie, Fennville, Fenton, Grand Haven, Grand Rapids, Hamburg, Harbor Beach, Henderson, Hillsdale, Holland, Holly, Imlay City, Interlochen, Jackson, Jenison, Kalamazoo, Kinde, Kingsley, Laingsburg, Lansing, Lapeer, Lawton, Ludington, Manistee, Marlette, Marshall, Mendon, Milford, Millington, Minden City, Newaygo, North Branch, Northport, Oakley, Otsego, Ovid, Owosso, Pigeon, Plainwell, Quincy, Rapid City, Reese, St. Charles, St. Clair, Sandusky, Schoolcraft, Scottville, Sebewaing, Spring Lake, Stockbridge, Sturgis, Suttons Bay, Traverse City, Union City, Vassar, Vernon, Vicksburg, White Pigeon, Ypsilanti, Yale.

March 1, 1915.

Hon. James W. Helme, State Dairy and Food Commissioner, Lansing, Michigan.

Dear Sir: During the months of January and February of this year there were analyzed in the Drug Division of this Department 117 official samples, 26 of which, or 22.2%, failed to comply with the provisions of the drug law. In dividing the samples into those manufactured by the retailer and those by the pharmaceutical concerns we find that 47 of the samples in question were manufactured by the former and 69 by the latter; representing practically every concern whose products are sold in Michigan.

Of the 47 samples representing preparations manufactured by the pharmacist 36% were below standard, while out of 69 samples representing 16 different preparations from the large pharmaceutical houses, 9 samples or 13%, were found not to be in compliance with the provisions of the drug law.

Respectfully yours,
A. R. TODD,
State Drug Analyst.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Bernay's antiseptic tablets	5	4	1
Caffein citrate	2	2	0
T. T. Calomel	6	6	0
Camphor liniment	4	4	0
F. E. Cascara sagrada	6	6	0
F. E. Cascara sagrada aromatic	6	6	0
Flavoring extracts	7	6	1
Elixir five bromides	1	1	0
Elixir pepsin	1	0	1
Elixir potassium bromide	6	5	1
Elixir sodium bromide	6	5	1
Essence pepsin	9	8	1
Liquid pepsin	1	0	1
C. T. Hexamethylene	6	6	0
C. T. Phenolphthalein	4	4	0
C. T. Potassium permanganate	6	6	0
Mercury ointment	2	0	2
Spirits camphor	4	3	1
Spirits lemon	1	1	0
Spirits Nitre	7	4	3
Spirits peppermint	9	8	1
Spirits wintergreen	2	1	1
Soap liniment	1	0	1
Tincture ginger	2	0	2
Tincture iodine	10	2	8
Seidlitz powders	1	1	0
Triple bromide tablets	1	1	0
Zinc oxide ointment	1	1	0
Totals	117	91	26

ANALYSES OF SAMPLES.

No. 31795, Q-545. Sample of Bernay's Antiseptic Tablets manufactured by F. Stearns & Co., Detroit. Does not conform to statement on label. Low in mercuric chloride and citric acid.

FLAVORING PREPARATIONS.

No. 31871, Q-567. Sample of Lemon Flavor manufactured by the Moore Co., Temperance. Not a true lemon extract. Misbranded.

ELIXIR PEPSIN.

No. 31508, Z-525. Sample of Elixir Pepsin N. F. manufactured by Eli Lilly & Co., Indianapolis, Ind., sold by the Hazelton & Perkins Drug Co., Grand Rapids and procured from White and White, Grand Rapids. Does not conform to N. F., 3rd Edition. Low in digestive strength.

ELIXIR POTASSIUM BROMIDE.

No. 31772, Q-522. Sample of Elixir Potassium Bromide manufactured by the Schmidt Chemical Co., Jackson. Does not conform to N. F. 3rd Edition or to statement on label.

ELIXIR SODIUM BROMIDE.

No. 31776, Q-526. Sample of Elixir Sodium Bromide manufactured by Nelson, Baker & Co., Detroit, Mich. Does not conform to N. F. 3rd edition. Low in sodium bromide.

ESSENCE PEPSIN.

No. 31598, Z-540. Sample of Essence Pepsin manufactured and sold by John Wyeth & Bro., Philadelphia, and procured from R. W. Johnson, Three Rivers. Does not conform to statement on the label.

LIQUID PEPSIN.

No. 31782, Q-532. Sample of Liquid Pepsin manufactured by Nelson, Baker & Co., Detroit. Does not conform to N. F. 3rd Edition. Low in digestive strength.

MERCURY OINTMENT.

No. 31809, Q-559. Sample of Mercury Ointment procured from Farand, Williams and Clark, Detroit. Does not conform to U. S. P. Low in mercury.

No. 31810, Q-560. Sample of Mercury Ointment manufactured by the Michigan Drug Co., Detroit. Does not conform to statement made on label. Low in mercury.

SPIRITS CAMPHOR.

No. 33083, Q-574. Sample of Spirits Camphor manufactured and sold by W. L. Sutton, Pigeon. Camphor 1.66%. Low in camphor.

SPIRITS NITRE.

No. 33089, Q-579. Sample of Spirits Nitre manufactured and sold by Norton Bros., Kinde. Ethyl nitrite 2.98%. Low in ethyl nitrite.

No. 33119, Z-579. Sample of Spirits Nitre manufactured and sold by F. N. Colwell, Jackson. Ethyl nitrite 3.04%. Low in ethyl nitrite.

No. 33120, Z-580. Sample of Spirits Nitre manufactured and sold by Meade & Carringer, Jackson. Ethyl nitrite 1.43%. Low in ethyl nitrite.

SPIRITS PEPPERMINT.

No. 31658, Q-505. Sample of Spirits Peppermint manufactured and sold by A. T. Malony, Quincy. Oil of peppermint 4.7%. Low in oil of peppermint.

SPIRITS WINTERGREEN.

No. 33084, Q-575. Sample of Spirits Wintergreen manufactured and sold by W. L. Sutton, Pigeon. Oil of wintergreen 4.2%. Low in oil of wintergreen.

SOAP LINIMENT.

No. 33092, Q-582. Sample of Soap Liniment manufactured and sold by Norton Bros., Kinde. Camphor 3.11%, Soap 10.45%. Low in camphor. Contains an excessive amount of soap.

TINCTURE GINGER.

No. 31655, Q-502. Sample of Tincture Ginger manufactured and sold by C. A. Wright & Son, Tecumseh. Low in alcoholic strength, thereby making the ginger extract too low.

No. 32041, Z-567. Sample of Tincture Ginger manufactured and sold by Arthur L. Sly, White Pigeon. Low in alcoholic strength, thereby making the ginger extract too low.

TINCTURE IODINE.

No. 31526, Z-529. Sample of Tincture Iodine manufactured and sold by W. H. Quigley, Grand Rapids. Iodine 6.477 gms., potassium iodide 3.579 gms. per 100 cc. Low in potassium iodide.

No. 31704, Z-547. Sample of Tincture Iodine manufactured and sold by Vanpell & Aldworth, Holland. Iodine 6.34 gms., potassium iodide 3.85 gms. per 100 cc. Low in iodine and potassium iodide.

No. 31937, Z-551. Sample of Tincture Iodine manufactured and sold by the Miller Drug Co., Union City. Iodine 4.67 gms., potassium iodide 3.7 gms. per 100 cc. Low in iodine and potassium iodide.

No. 32037, Z-563. Sample of Tincture Iodine manufactured and sold by the Cadillac Drug Co., Cadillac. Sample is not Tincture Iodine although labeled such. Sample is Tincture of Opium.

No. 33018, Z-571. Sample of Tincture Iodine manufactured and sold by A. J. Gibson, Grand Rapids. Iodine 6.0 gms., potassium iodide 5.9 gms. per 100 cc. Low in iodine.

No. 33091, Q-581. Sample of Tincture Iodine manufactured and sold by Norton Bros., Kinde. Iodine 5.71 gms., potassium iodide 5.134 gms. per 100 cc. Low in iodine.

No. 33095, Q-585. Sample of Tincture Iodine manufactured and sold by L. A. Hooper, Caro. Iodine 7.3 gms., potassium iodide 0.658 gms. per 100 cc. Low in potassium iodide.

No. 33096, Q-586. Sample of Tincture Iodine manufactured and sold by Coad Bros., Caro. Iodine 6.65 gms., potassium iodide 2.871 gms. per 100 cc. Low in potassium iodide.

WEIGHTS AND MEASURES REPORT.

The Weights and Measures Department is progressing. Since last report Mr. Wells of Marquette County and Fred Dolecke of Eaton County have started work inspecting. Also our Department has inspected more scales and measures than any other two months in the history of the Department. The Drug Inspectors are inspecting prescription scales, weights and graduates. The Creamery Inspectors are pushing the work of inspecting Butter Fat scales. We have experimented on Babcock test bottles and cream scales and have introduced a Bill in the Legislature embodying our ideas of the type of bottles and scales that should be used.

Our experiments on bean scales have resulted in finding that the majority of them are not sensitive enough. A Bulletin will be issued later showing our findings on same. We are greatly indebted to A. L. Chamberlain of Sandusky for the courtesy extended to us while testing the bean test scales of the various scale manufacturing firms, which were submitted for our examination.

We are now investigating the sale of Linseed Oil by the barrel. The custom of a great many firms to sell $7\frac{1}{2}$ pounds for a gallon, thereby short-measuring the retailer about 2 gallons to the barrel, seems a very hard one to reach by law, but will be done if possible.

Also, the sale of coal by the car. The invoices having the printed statement on that railroad weights must be accepted. Upon investigation we find the railroads weigh the cars out but do not weigh the empty cars in. We have found a large number of cars which had over three tons of ice in the bottom, thereby beating the buyer out of that much coal.

For years the enforcement of the Weights and Measures Law has been very lax and our force is very small to enforce the law and stop all of the bad practices of dealers who short measure the trade, but those offenders are beginning to feel the hand of law bear heavily on them. until it will only be a short time in the future when a man will fear to give anything less than 16 ounces to the pound or 15 pounds for a peck of potatoes. The writer has nothing but pity for the man that

starts to give some argument why he should not give 60 pounds for a bushel of potatoes.

Below is a summary of the work accomplished and I want to congratulate those who have been active, and particularly Mrs. Wheelan, in the number of illegal measures she condemned. The Detroit Inspectors do not inspect many scales because the city has an efficient Sealer.

	Correct.	Condemned.	Adjusted.
Railroad track scales			
Hopper scales	1		
Wagon scales	7	7	2
Other platform scales	14	33	1
Suspension scales	2	5	
Counter scales	77	50	28
Spring balances	4	79	2
Beam scales	15	39	3
Computing scales	118	101	37
Slot personal scales		2	4
Cream scales		1	
Dry measures	854	1,427	
Liquid measures	78	123	
Milk jars			
Automatic pumps	2	3	
Baskets			
Boxes			
Yard sticks	5	6	
Counter measures	104	466	
Tapes		1	
Weights	352	9	43

B. B. LINCOLN,
Deputy Dairy and Food Commissioner,
In charge of Weights and Measures.

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Quality.
Branch County, Jan.-Feb.:					
Quincy Cream Station	Quincy	Towar's Wayne Co. Cry.			Good
Jackson City Creamery	Bronson	Jackson City Creamery			Good
Union City Cream Station	Union City	Jackson City Creamery			Good
Bronson Creamery	Bronson	L. P. Hansen			Good
Bronson Cream Station	Bronson	S. B. Creamery Co.			Good
Quincy Creamery	Quincy	Emil Andersen			Good
Coldwater Creamery	Coldwater	Mrs. I. C. Waite			Good
Union City Creamery	Union City	F. B. Dent			Good
Calhoun County, Jan.-Feb.:					
Tekonsha Creamery	Tekonsha	H. E. Taylor		49,000	Good
Homer Cream Station	Homer	Jackson City Creamery			Good
Tekonsha Cream Station	Tekonsha	Jackson City Creamery			Fair
Eaton County, Jan.-Feb.:					
Towar's Cream Station	Grand Ledge	Towar's Wayne Co. Cry.			Good
Spencer & Howe Cream Station	Grand Ledge	Spencer & Howe Creamery			Good
Grand Ledge Cream Station	Grand Ledge	Grand Ledge Cream Sta.			Fair
Gratiot County, Jan.-Feb.:					
Swift & Co.	Ithaca	Nelson Mathews	15,000		Good
Swift & Co.	Pompeii	L. R. Gould	2,000		Good
Ithaca Creamery Co.	Ithaca	Doran & McCredie		200,000	Good
Hilldale County, Jan.-Feb.:					
Hilldale Elgin Creamery Co.	Hilldale	N. B. Collins	195,101	234,122	Good
Huron Co., Jan.-Feb.:					
Port Huron	Pigeon	Wm. Krohn	10,000		Fair
F. M. Warner	Pigeon	A. C. Smith		35,000	Fair
Huron Co. Creamery Co.	Pigeon	Henry Clabuesh		130,000	Fair
Ingham County, Jan.-Feb.:					
Towar's Cream Station	Mason	Towar's Wayne Co. Cry.			Good
Spencer & Howe Cream Station	Williamston	Spencer & Howe Cry. Co.			Good
Iosco County, Jan.-Feb.:					
Iosco Creamery Co.	Whittemore	M. Jensen			Good
Iron County, Jan.-Feb.:					
Iron River Creamery Co.	Iron River	Henry H. Frailing	28,000	35,000	Good
Jackson County, Jan.-Feb.:					
J. A. Fowler Creamery	Jackson	J. A. Fowler	27,318	120,000	Good
Macomb County, Jan.-Feb.:					
Richmond Creamery	Richmond	Wm. Zentgrebe	108,300	132,300	Good
Utica Co-operative Creamery	Utica	Utica Co-operative Co.	216,531	262,000	Good
Utica Milk Depot	Utica	Detroit Creamery Co.			Good
Port Huron Creamery Station	Richmond	Port Huron Creamery Co.			Good
Spencer & Howe Cream Station	Richmond	Spencer & Howe			Good
Kalkaska County, Jan.-Feb.:					
Boylard Creamery Co.	South Boardman	Hunter Bros.			Good
Swift & Co.	Kalkaska	E. E. Aldrich	8,000		Good
Kent County, Jan.-Feb.:					
Mosley Cooperative Creamery	Mosley	A. H. Blasser		113,000	Good
Kent Creamery	Cedar Springs	Kent Creamery		80,000	Good
Cedar Springs Cooperative Copartnership	Cedar Springs	F. S. Andrus			Good

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteuriser.	Vats.	Skin milk tank.	Piping.	Churn.	Engine.	Boiler.		
25												
25												
25												
25				Clean	Good		Good	Clean	Good	Good		
40												
150				Clean	Good		Good	Clean	Good	Good		
40				Clean	Good		Good	Clean	Good	Good		90
400				Clean	Clean		Good	Clean	Good	Good		
75					Good		Good	Clean	Good	Good		
25												
25												
25												
50												
25												
10												
100	Good			Good	Good		Good	Good	Good			90
200				Clean	Clean		Good	Clean	Good	Good		92
140	Good				Fine	Fine	Good	Fine		Good		90
10												
50												
50												
50												
					Fine		Good		Good	Good		
50									Good			
				Clean	Clean	Good	Good	Clean	Good	Good	Good	
30												
125					Clean		Fair	Clean	Good	Good		90
200	Clean	Clean	Clean	Clean	Clean	Clean	Good	Clean	Good	Good	Fair	94
25				Clean	Clean				Good	Good	Good	
100	Good		Good	Fine	Good	Good	Good	Good	Good	Good		90
200	Good			Good	Good		Good	Good	Good	Good		90
50				Good			Good	Good	Good	Good		90

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Macomb County, Jan.-Feb.:					
New Haven Creamery.....	New Haven.....	Detroit Creamery Co.....			Good
Mecosta County, Jan.-Feb.:					
Rudell Creamery.....	Crapo.....	Baumgartner.....			Good
L. Barber Co.....	Paris.....	G. F. Louks.....			Good
Midland County, Jan.-Feb.:					
Michigan Creamery Co.....	Coleman.....	H. Jones.....	10,000		Good
Farmers Dairy Association.....	Coleman.....	F. L. Furgeson.....		75,000	Good
Coleman Creamery Co.....	Coleman.....	Chas. Keyworth.....		100,000	Good
Montcalm County, Jan.-Feb.:					
L. Barber Co.....	Stanton.....	David Chase.....	10,000		Good
Swift & Co.....	Stanton.....	J. H. Mathews.....	20,000		Good
Edmore Cream Station.....	Lakeview.....	M. Peterson.....	5,000		Poor
Swift & Co.....	Lakeview.....	Frank Stebbins.....	20,000		Good
Lakeview Creamery Co.....	Lakeview.....	H. A. Black.....		80,000	Good
Greenville City Creamery.....	Greenville.....	S. Peterson.....		120,000	Good
Oceana County, Jan.-Feb.:					
Hart Creamery.....	Hart.....	E. S. Powers.....		120,000	Good
Oscoda County, Jan.-Feb.:					
Reed City Butter Co.....	Reed City.....	R. E. Smith.....		100,000	Good
Oakland County, Jan.-Feb.:					
Clarenceville Milk Station.....	Clarenceville.....	Towar's Wayne Co. Cry.....			Good
Towar's Cream Station.....	Holly.....	Towar's Wayne Co. Cry.....			Fair
Holly Cream Station.....	Holly.....	Crouse & Parrshall.....			Fair
Towar's Cream Station.....	Davidsburg.....	Towar's Wayne Co. Cry.....			Good
St. Joseph County, Jan.-Feb.:					
Colon Creamery.....	Colon.....	Colon Creamery.....	131,271	158,274	Good
Burr Oak Cream Station.....	Burr Oak.....	Jackson City Creamery.....			Good
Colon Cream Station.....	Colon.....	Jackson City Creamery.....			Good
Saginaw County, Jan.-Feb.:					
Hemlock Creamery Co.....	Hemlock.....	Wm. Pahl.....		207,000	Good
Shiawassee County, Jan.-Feb.:					
Henderson Creamery Co.....	Henderson.....	Winson Bovee.....		75,000	Good
Wayne County, Jan.-Feb.:					
Inkster Milk Depot.....	Inkster.....	Detroit Creamery Co.....			Good
Plymouth Milk Depot.....	Plymouth.....	Detroit Creamery Co.....			Good
Wayne Creamery.....	Wayne.....	C. E. Dawning.....	600,000		Fair
Ford Market Creamery.....	Detroit.....	C. D. Shedd & Son.....	81,000	98,420	Good
Johnson Creamery.....	Wyandotte.....	Lyman Johnson.....	800,000	33,200	Good
Spencer & Howes.....	Detroit.....	B. L. Homes.....			Good
Wolverine Creamery.....	Detroit.....	E. DeMuth.....	98,200	81,000	Good
Highland Park Creamery.....	Detroit.....	Geo. Brown.....	4,485,000	200,000	Good
Wexford County, Jan.-Feb.:					
Rudell Creamery.....	Manton.....	S. F. Smith.....		130,000	Good
Swift & Co.....	Cadillac.....	James Cowley.....	30,000		Good
Swift & Co.....	Boon.....	E. A. Loeie.....	10,000		Good
Sanitary Milk Co.....	Boon.....	A. Schwartz.....	6,000		Good

CREAMERIES.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteurizer.	Valv.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
75	Clean..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..	Clean..	Good..	Good..		
10												
40												
100	Good..				Fine		Good	Fine	Good..	Good..		90
100	Good..				Fine		Good	Good..	Good..	Good..		90
10												
25												
100		Good..		Good	Fine		Good	Good		Good		
100				Good	Fine		Good	Fine		Good		90
200		Good..		Good..	Fine		Good..	Good..	Good..	Good..		90
100				Good..	Fine		Good..	Good..	Good..	Good..		90
25												
25												
15												
250					Clean..		Fair..	Clean..	Good..	Good..		91
15												
25												
100	Good..			Good..	Fine		Good..	Fine	Good..	Good..		90
				Clean..	Clean..				Good..	Good..		
	Good..	Clean..	Clean..	Clean..	Clean..	Clean..	Good..		Good..	Good..		
50	Clean..	Clean..	Clean..		Clean..	Clean..	Fair..	Clean..	Good..	Good..		
125					Clean..	Clean..	Good..	Clean..	Good..	Good..		90
		Clean..	Clean..	Clean..	Clean..	Clean..	Fair..	Clean..	Good..	Good..		91
1,000					Clean..	Clean..	Good..	Clean..	Good..	Good..		
100					Clean..	Clean..	Good..	Clean..	Good..	Good..		
75	Good..	Clean..		Good..	Clean..	Clean..	Good..	Clean..	Good..	Good..		93
50	Good..	Clean..	Clean..	Good..	Good..			Good..	Good..	Good..		90

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese, pounds.	Style.
Gratiot County, Jan.-Feb.:					
Cremo Cheese Co.....	Aahley.....	A. G. Aldrich.....	1,150,000	150,000	Soft Cheddar.....
Peter J. Wolf & Son.....	Ols.....	P. J. Wolf & Son.....	833,000	83,000	Soft Michigan.....
Ingham County, Jan.-Feb.:					
Williamston Cheese Factory....	Williamston.....	Detroit Creamery.....	1,200,000	120,000	Michigan Soft
Shiawassee County, Jan.-Feb.:					
Henderson Cheese Factory	Henderson.....	A. C. Dowd.....	1,000,000	100,000	Soft Michigan.....

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd mill.	Whey tank.	Rennet test.	Boiler.		
A. G. Aldrich	Good	2, fine	2		Good		10 H. P. .	Good	Natural ..
Peter J. Wolf	Good	2, good	2		Good		10 H. P. .	Fair	
H. J. Bivins	Good	1, good	1		Fair		6 H. P. .	Fair	
A. C. Dowd	Good	2, good	1		Good		6 H. P. .	Fair	

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Quality of milk.				
							Sanitary surroundings.	Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Flint, Jan.-Feb.											
Fisk & Poucher.....	80	50	60	75	30	295	Poor.....				
Clinton, Jan.-Feb.											
Mrs. A. M. Campbell.....	83	45	50	70	30	280	Poor.....				
Geo. Heimerdinger.....	70	70	68	78	45	330	Poor.....				
Alfred J. Allen.....	81	80	70	80	62	373	Poor.....				
Crystal Falls, Jan.-Feb.:											
E. E. Alford.....	63	75	80	90	90	398	Medium.....				
Chas. M. Rogers & Son.....	93	85	95	85	100	458	Good.....	4.2	34	13.51	9.51
Chas. A. Peterson.....	86	70	65	85	85	391	Medium.....				
W. Poyseor.....	100	85	95	85	100	465	Good.....	3.8	33	12.81	9.01
Hancock, Jan.-Feb.:											
Gehard Wuebben.....	77	75	75	90	80	397	Medium.....	4.0	32	12.8	8.8
Jas. Gaspario.....	90	70	70	80	85	395	Medium.....	3.6	30	11.82	8.22
Jno. Bissant.....	85	75	70	85	100	415	Medium.....	3.8	30.5	12.185	8.585
Wm. Koppala.....	90	75	85	90	90	430	Medium.....				
Isaac Olson.....	78	75	75	90	95	413	Medium.....				
Mat Wesala.....	77	75	85	85	85	407	Medium.....				
Peter Erickson.....	62	45	60	75	70	312	Poor.....				
Dolphus Beauchamp.....	77	70	75	85	85	392	Poor.....				
Mrs. M. Leppanen.....	85	80	80	90	85	420	Medium.....				
Jno. Isojarvi.....	90	90	80	90	85	435	Good.....	3.4	33	12.33	8.93
Jos. Salmes.....	85	75	80	85	95	420	Medium.....				
Jno. Gaspario.....	80	75	75	80	85	395	Medium.....	4.2	32	13.04	8.84
Battista Vittoni.....	90	95	85	85	100	458	Good.....	4.0	32.5	12.675	8.675
Emil Sjorgren.....	83	65	80	85	75	398	Poor.....				
Guieseppe Nicalato.....	67	15	55	65	65	267	Poor.....				
Iron Mountain, Jan.-Feb.:											
Aug. P. Wikman.....	85	75	85	85	90	420	Medium.....	3.6	32	12.32	8.72
Rich Pollard.....	85	90	85	90	90	440	Good.....				
Alex. Anderson.....	80	75	85	85	90	415	Medium.....				
J. J. Eskil.....	90	85	85	90	90	440	Good.....				
Iron River, Jan.-Feb.:											
Chas. Johnson.....	85	70	80	85	90	410	Medium.....				
Samuel Johnson.....	75	70	75	85	85	390	Poor.....				
Chas. Schultz.....	81	60	75	85	85	386	Poor.....	4.0	32.5	12.925	8.925
Rudolph Baumgartner.....	95	95	85	90	100	455	Good.....	4.0	30	12.3	8.3
Jessie Armitage.....	78	80	75	90	89	403	Medium.....	4.0	31.5	12.675	8.675
J. W. Byers.....	100	95	95	95	100	485	Excellent.....	4.4	32	13.28	8.88

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

**LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1915.**

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT

LANSING.

JAMES W. HELME.....	COMMISSIONER
BURR B. LINCOLN.....	DEPUTY COMMISSIONER
FERN L. SHANNON.....	STATE ANALYST
M. J. SMITH.....	CHIEF CLERK
A. R. TODD.....	DRUG ANALYST

NEW DAIRY AND FOOD LAWS.

We give herewith the principal changes made in the Dairy and Food Laws of Michigan by the Legislature of 1915. These laws, except where otherwise noted, take effect August 20, 1915.

DAIRY LAWS.

The Renovated Butter Law has been so amended that hereafter all tubs and retailer's packages of this substance must be marked "Renovated Butter." The term "Process Butter" cannot be used after August 20th. Also, all hotels, restaurants or other places that serve renovated butter on their tables are required to post in their dining room a white placard on which is printed in black ink in plain Roman letters not less than three inches in length and two inches in width, the words "Renovated Butter used Here."

A Standard Milk Bottle Law has been enacted. After January 1, 1916, all bottles used for the sale of milk and cream shall be of the capacity of half gallon, three pints, 1 quart, 1 pint, 10 ounces, $\frac{1}{2}$ pint and 1 gill. The capacities are required to be stamped on the bottles. Manufacturers of milk bottles who sell bottles to be used in the state are required to file a bond to furnish standard bottles as prescribed in the Act, and a designating number to be furnished by the Dairy and Food Commissioner, shall be blown in every bottle by each manufacturer.

Cheese factories, creameries and skimming stations are required to pasteurize all by-products before they return them to the farmer except creameries that pasteurize their cream prior to manufacture.

An Act was also passed which provides a State Brand may be furnished creameries of the state, to be used on their butter, provided it has certain qualifications as to quality, which are to be fixed by the Department.

The Babcock Test Law has been amended so that specifications are provided for Babcock Test Bottles and other glassware, and also specifications are provided as to Cream Scales. The specifications of the Babcock glassware are the same as the Federal specifications.

FOOD LAWS.

Practically the only change in existing Food Laws, was the passage of the Bill regulating the manufacture and sale of carbonated beverages and other soft drinks. All bottlers of carbonated beverages must take

out a license with the Dairy and Food Department, which costs \$10.00, and must be renewed annually. All bottled, carbonated beverages are by this law standardized, shall be made from cane and beet sugar syrup, shall contain in the finished product not less than eight per cent sugar, and contain pure flavoring material and if colored, only certified colors are permitted.

Persons selling any soda water syrup or extract, soft drink syrup or extract bearing a distinguishing name or trade mark, are required to furnish a sample of same to the Dairy and Food Commissioner and have the same licensed. The license fee is \$5.00 for each and every brand of syrup or extract and must be renewed annually. The manufacturer who pays this license is entitled to sell throughout the state and no license is required from the retailer who sells his product.

Beverages sold in bulk or from an open receptacle that contain artificial color or artificial flavor of any character, are required to be labeled and the label shall be displayed in all places where the beverages are sold. Labels for this purpose shall not be less than four inches in width and ten inches in length. A provision is also made for proper sterilization of all bottles used and the Dairy and Food Commissioner may revoke the license of any bottler who fails to comply with the provisions of the Act.

DRUG LAW.

The Drug Law was so amended that any drug or patent medicine is deemed to be mis-branded if the package or label should bear or contain any statement, device or design regarding the curative effect of such articles, which is false and fraudulent.

LAWS REPEALED.

The Law requiring the testing of sugar beets by the Department has been repealed.

The Law requiring the registration of commercial feeding stuffs for animals has been amended so as to transfer that department to the Agricultural College at East Lansing. Law takes effect Aug. 20, 1915.

IMPORTANCE OF CLEANLINESS AROUND THE DAIRY.

C. V. JONES, STATE DAIRY INSPECTOR.

To fully appreciate the extreme importance of cleanliness around the dairy, the dairyman must bear in mind that bacteria commonly found in milk are miniature plants, and like all plants, such as wheat, corn and grasses, require three things for their growth, namely, soil, moisture and proper temperature.

Milk is an ideal medium for the development of all kinds of bacteria. Bacteria, like all other plants, require food, and milk is a good food. Milk is well supplied with water, and the casein or curd of milk forms a good soil, or food for bacteria to grow upon. And when milk is first drawn from the udder of the cow it is at a temperature best suited to the most rapid growth of the types of bacteria commonly found in milk.

Where do the bacteria come from? It should be borne in mind that the bacterial content of milk, largely, comes from some source external to the cow. It is a fact that some of the bacteria of milk come from the cow directly, but with few exceptions these bacteria are harmless, having power to curdle or sour the milk only. The dangerous type of bacteria found in milk, almost invariably, reaches the milk through some outside agency.

Since the vast majority of bacteria found in milk reaches it through external sources, it is self-evident that the number of bacteria finding their way into milk may be more or less controlled by the dairyman. Thus, all reforms in the dairy world fostered by HEALTH BOARDS, and PURE FOOD COMMISSIONS, are designed to accomplish several ends, namely,—1st, to eliminate, as far as possible, all diseased or unhealthy animals from the dairy herd. 2nd, to guard the milk from becoming contaminated after it leaves the cow's udder until it finally reaches the consumer. 3rd, to assist the dairyman to bring about conditions around the dairy that will tend to lessen the number of bacteria finding their way into the milk, and as far as possible, to produce conditions that will prevent the growth and multiplication of the bacteria that unavoidably get into milk.

The dairyman frequently argues that milk inspectors often make demands upon him that he cannot afford to meet and sell his product at the ruling prices. He also frequently feels that many of the precautions are unnecessary, and that suggested departures from the old methods are trifling and unimportant, at the same time, imposing upon him an unnecessary expense and inconvenience. He forgets that conditions are continually and rapidly changing, and that the demand for a clean and sound milk is greater and more emphatic today than ever before.

The dairyman should remember that the observance of these precautions, on his part, and his endeavor to meet the demand for a purer milk will hasten the day when he will be able to ask a higher price

for his product and receive it. He should also remember that it is the non-observance of sanitation and cleanliness around the dairy and stables that is a cause for so much butter, cheese and milk being sold upon the market at a loss to both the producer and manufacturer alike.

When the dairyman shall have learned, better, how to produce clean milk, and shall have come to give greater attention to the vast need of cleanliness and sanitation both around the dairy and stables, and shall pay strict attention to the cleanliness of all utensils used around the dairy, such as pails, cans, strainers, strainer-cloths and cream separators, and shall make it his chief business to determine that the udders of the cows are properly cleaned before the milking is done, and that the person and hands of the milker are in fit condition to insure milk free from external contamination, and shall also have a proper regard for the importance of cooling the milk and keeping it cool until delivered to the consumer or manufacturer, he shall have hastened the dawn of greater prices for both the milk and its products.

The demand for a purer milk, and for greater care in its production is growing steadily, and this demand will be more and more strictly enforced.

To meet the demands for a purer milk, the dairyman must pay especial attention to the following requisites so closely related to the production of clean and wholesome milk.

1st. Health of Cow:—The dairy herd should be inspected, periodically, by a veterinarian, to determine their soundness; and no animal suffering from contagious disease, especially disease of the udder, should be allowed to contribute to the milk supply. It would be almost impossible to over-rate the importance of excluding tuberculous cattle from herds contributing to the public milk supply, particularly where milk reaches the public in its raw, or unpasteurized state. The dairyman who would gain the confidence of the milk consumer will have his dairy herd inspected at intervals, and apply the tuberculin test to all of his cattle, and any animal that reacts must be taken away from the rest of the herd.

The udders of the cows should be watched carefully, and when there are any signs of inflammation or disease, or where there is an appearance of gargetty or bloody milk, the animal's milk should be discarded until she has completely recovered. To insure healthy cattle they must be given a fair amount of out-door exercise, and allowed to breathe plenty of fresh air.

2nd. Stables:—The stables must be light, airy, dry, clean and comfortably warm. There should be, at least, three square feet of light for each animal in the stable. Many of the "City Health Boards" demand five square feet of light for each animal confined in stables. Light is Nature's great disinfectant. Stables should be airy. Each cow should have, not less than, four hundred cubic feet of air space, and when the cattle are turned out into the yard, as they should be daily, except in extreme weather, the stables should be properly aired. It is important that dairy cattle spend a portion of the day outside, and the length of time so spent should be regulated by the temperature and condition of the weather. Cattle giving milk must not be exposed to the cold rains or zero weather, but if the weather is clear, and not too cold, they should be given ten or fifteen minutes out-door exercise daily.

Each dairy barn should be equipped with a good system of ventilation. The stables should be dry. Where the walls and ceiling of the stable are unduly damp the cause may frequently be traced to faulty ventilation.

Wherever possible dairy barns should be built upon high and dry ground, and surroundings kept clean by removing the manure a good distance away. This may easily be done by using a litter carrier. The stables ought to be cleaned daily, at least, and not less than two hours should elapse between the cleaning of the stable and milking time. The interior of the stable should be smoothly finished. Floors should be made of cement, and should be made smooth except where the cows travel so as to make easy their cleanliness and sanitation. The ceilings and walls should be close and smooth, and should be white-washed every six months. This can be easily done by a spray pump. White-wash disinfects and makes the stable light and clean. Dust and cobwebs should receive special attention, for these form traps for the accumulation of dirt, and are also sources of bacteria that find their way into milk, and contaminate it. Cattle should be supplied with plenty of clean bedding.

It is very important that the cows be confined in some form of stable that will tend to keep them clean. If the dairy farmer feels that he cannot afford the expense of putting in modern stanchions with gas pipe fittings, he can use the so-called model stall which he can build himself at a very low price and it will keep the cows absolutely clean. Details and specifications of this stall will be furnished by this Department on request. Write to the State Dairy and Food Department, Lansing, and ask for the Bulletin on Clean Cows and Clean Stables.

Dairy Employees:—To insure clean and wholesome milk, it is necessary to pay considerable attention to the personnel and habits of the persons employed in the dairy. In the better class of dairies, those who do the milking wear white linen coats and trousers. White is preferable to dark clothes since it shows the dirt when soiled. The clothes of the milkers should be made of washable materials. It has been determined on careful investigation that bacteria from the hands and clothes of the persons milking the cows, and handling the milk, is often more dangerous than those from other sources. Hence, it is becoming common in the best class of dairies to insist upon a thorough washing and drying of the hands of the milkers before milking commences. No one should be permitted to handle any milk, or to wash or handle the milking utensils in any way, who is suffering from any contagious disease. Also the use of tobacco should be strictly forbidden around the dairy. Any farm upon which there is a case of typhoid, scarlet fever or diphtheria should not be allowed to furnish milk to the public, without first obtaining a permit to do so from a competent health officer.

Guarding The Milk:—We have seen that most of the bacteria in ordinary milk comes not from the udder of the cow, but from some external source, hence the greatest caution should be practiced in the care and handling of the milk after it leaves the udder of the cow. Milking out of doors is to be especially commended, and should be practiced where and whenever possible. Cows should not be fed hay or other dry fodder during the milking period, but rather immediately after.

Feeding the cows dry feed is sure to fill the air with dust and dirt, and experiment has shown that milk contains a larger number of bacteria where the cows are fed dry feeds, during, or immediately preceding milking. It is much better to feed immediately after milking, as then the bacteria laden dust will have a chance to settle before the next milking time. This practice will result in a cleaner milk, and hence a lower bacterial content.

Cleanliness of Cow:—If a clean and pure milk is to be obtained, it is absolutely necessary to give much attention to the cleaning and grooming of the dairy cattle. The more successful dairymen are giving much attention to the grooming of the cows, and in numerous instances the cleanliness of cows is given as much attention as that of the horse. This is absolutely necessary if a proper milk supply is to be obtained and maintained. Where cattle are confined to stables some manure is bound to adhere to the flanks and tail, and where the hair is particularly long and coarse the character of the milk is bound to suffer if much attention is not given to the cleanliness of the cow before milking time. The hair of the udders, flanks and tail of the cow should be clipped occasionally, and she should be groomed at least once each day. Cows should not be allowed to wade through mud or manure. Many barnyards are filthy and unfit for cattle to run in, simply because they are not properly drained and kept clean. The manure should never be allowed to accumulate in the barnyard, but should be dumped into a spreader and drawn to the field and spread. This practice saves much time and labor and insures greater fertilizing efficiency. A clean dry barnyard for the dairy-cattle to exercise in will contribute much to the cleanliness and health of the cows, and hence influence the purity of the milk.

Dairy Utensils:—Perhaps more than any other source, dairy utensils affect the bacterial content of milk. It is self-evident, therefore, that dairy utensils should receive the greatest of consideration and care, yet how often we find milkpails, strainers, coolers, milk cans, cream separators, etc., that have never been properly cleaned and sterilized. To properly care for dairy utensils is no ordinary or easy task, and it is practically useless to attempt to clean milk pails, strainers, etc., with cold or even warm water. All milk vessels should be made of good metal, with a perfectly smooth surface.

All milk utensils should be rinsed as soon as they are emptied with cold water. If milk is allowed to dry upon them, it makes it very hard to clean them afterward. If they are rinsed as soon as they are emptied, the cleaning is made much easier. After rinsing they should be cleaned by using warm water with a good washing soda and brush, not a cloth. Then rinse with warmer water, after which use plenty of boiling water, or preferably live steam for sterilization purposes.

Where milk is being delivered to a large dairy or creamery the cans should be cleaned and sterilized before being returned to the farmers.

Cooling Milk:—It is not enough that we use every precaution to guard the milk against undue infection, but it must also be protected against contamination and deterioration, therefore the next most important step toward its safe-guarding is to properly cool it immediately after it is drawn from the cow. Cooling the milk to a temperature of

50 degrees Fahr. or below retards the action and growth of the bacteria that have found their way into the milk, and if the milk is held uniformly at this low temperature it will keep sweet for a very long period.

Milk produced under sanitary conditions, properly cooled and kept clean and cool will remain sweet for an indefinite period.

MORAL—BE CLEAN—KEEP COOL.

PROSECUTIONS.

Since beginning of fiscal year, July 1, 1914.

Cases pending July 1, 1914.....	36
Cases commenced since said date.....	241

CASES DISPOSED OF.

Before examining magistrates:	
Defendants bound over	49
Defendants discharged	20
In trial courts:	
Defendants convicted	188
Defendants acquitted	10
Cases pending May 1, 1915	59

In the case pending in justice court against Wm. A. McCool of Traverse City, charged with transporting cream in rusty and open seamed cans. April 16, defendant entered a plea of guilty. Fined \$10 and costs.

In the case pending in circuit court, county of Dickinson, against Wm. Burt charged with selling eleomargarine for butter. Defendant entered a plea of guilty. Fined \$50 and costs.

Complaint was made March 17 in municipal court, city of Kalamazoo, against Ralph E. Waldo charged with selling insanitary cream. Defendant entered a plea of guilty. Fined \$25 and costs.

Complaint was made April 1 in justice court, city of Cheboygan, against Sayles & Curtis charged with selling adulterated milk. April 22, 1915, defendant acquitted.

Complaint was made April 2 in justice court, city of West Branch, against W. A. Cook proprietor of the Rose City Creamery charged with insanitary conditions in connection with creamery. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

Complaint was made April 2 in justice court of Gaylord against Geo. E. McKenzie charged with using excessive cereal in the manufacture of sausage. Case pending.

Complaint was made April 19 in justice court, city of Petoskey against Robert Shafer charged with selling unwholesome candy. April 24 defendant bound over to circuit court for trial. Case pending.

Complaint was made April 18 in police court, city of Grand Rapids, against C. B. Dressler charged with violation of net weight law. Case pending.

Complaint was made April 18 in police court, city of Grand Rapids, against John Frick charged with violation of net weight law. Case pending.

Complaint was made April 18 in police court, city of Grand Rapids, against Claude M. Ryan charged with violation of net weight law. Case pending.

Complaint was made April 20 in police court, city of Grand Rapids, against Thos. M. Ditman, charged with selling maple syrup not properly branded as to net contents. Case pending.

FOOD INSPECTIONS.

The following places were visited by the Department's food inspection force during the months of March and April, 1915:

Adrian, Ahmeek, Albion, Allegan, Allouez, Alpena, Ann Arbor, Bad Axe, Bancroft, Baraga, Bay City, Belding, Bennington, Berrien Center, Berrien Springs, Birch Run, Blissfield, Brockway, Butternut, Calumet, Carsonville, Cassopolis, Charlotte, Chassell, Cheboygan, Chelsea, Clio, Copemish, Copper City, Davison, Decke, Demmon, Denton, Detroit, Diorite, Dodgeville, Dollar Bay, Don, Dowagiac, Durand, East Tawas, Eckerman, Elmer, Filion, Flint, Flushing, Fountain, Franklin Mine, Freesoil, Gaylord, Gibson, Gladstone, Gladwin, Goodrich, Grand Rapids, Greenland, Harbor Beach, Henderson, Hillman, Hopkins, Houghton, Howell, Hubbell, Hudson, Ida, Ionia, Ishpeming, Ithaca, Jackson, Kalamazoo, Laingsburg, Lansing, Lapeer, Laurium, Linden, Manistee, Marquette, Marshall, Martin, Mass, Milan, Milford, Mohawk, Monroe, Morgan, Mulliken, Muskegon, Negaunee, Newberry, Niles, Ontonagon, Orleans, Otsego, Owosso, Petoskey, Pinconning, Pontiac, Port Huron, Portland, Richville, Rockland, Rose City, Royal Oak, Rudyard, Saginaw, St. Ignace, St. Louis, Sandusky, Sault Ste. Marie, Shabbona, Snover, South Rockwood, Stockbridge, Strasburg, Strong's, Superior, Tawas City, Thompsonville, Traverse City, Utica, Vassar, Vickeryville, Victoria, Waldron, West Branch, Whittemore, Williamston, Wyandotte.

May 1, 1915.

Hon. James W. Helme,
State Dairy and Food Commissioner,
Lansing, Michigan.

Dear Sir:—I herewith hand the report of the work of the Laboratory Division of this Department for the months of March and April. We examined a total of 185 samples during these two months. Forty-nine of them were found to be adulterated, misbranded or illegal, while 136 were passed.

Respectfully yours,
F. L. SHANNON,
State Analyst.

SUMMARY.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Apple butter.....	1	.....	1
Beans.....	3	3	.....
Butter.....	58	57	1
Buckwheat.....	2	2	.....
Candy.....	1	.....	1
Canned fruit.....	2	1	1
Cream.....	19	18	1
Cocoa.....	1	1	.....
Coffee.....	1	1	.....
Eggs.....	2	1	1
Evaporated milk.....	2	1	1
Flavoring preparations.....	3	.....	3
Hamburg steak.....	4	2	2
Honey.....	2	2	.....
Ice Cream.....	3	3	.....
Lard and lard compound.....	5	2	3
Linseed oil.....	4	.....	4
Maple sugar.....	4	4	.....
Milk.....	38	25	13
Mustard.....	1	.....	1
Oleomargarine.....	2	.....	2
Pea seed.....	1	.....	1
Pork.....	1	.....	1
Preserves.....	1	1	.....
Preservatives.....	1	1	.....
Sausage.....	9	3	6
Syrups.....	11	7	4
Sugar (blended).....	1	.....	1
Table sauce.....	1	.....	1
Vinegar.....	1	1	.....
Totals.....	185	136	49

ANALYSES OF SAMPLES.

APPLE BUTTER.

No. 33250, I-509. Sample of apple butter manufactured by A. R. & H. G. Gross, Nashville. Misbranded in that the net weight is not stated on the package.

BUTTER.

No. 33346, G-1186. Sample of "butter" sold by Miller Bros., Negawnee. Product is oleomargarine artificially colored.

CANDY.

No. 33573, B-263. Sample of candy procured from Robert Shafer, Petoskey. Candy is wormy and unfit for human consumption.

CANNED PEACHES.

No. 33108, F-235. Sample of canned peaches manufactured by J. M. Thompson & Co., Philadelphia, Pa. Misbranded in that the net contents is not stated on the can.

CREAM.

No. 33261, G-1185. Sample of cream procured from J. J. Smoker, Ishpeming. Butter fat 15.5%. Below standard in butter fat.

EGGS.

No. 33061, I-498. Sample of "Strictly Fresh Eggs" procured from C. F. Smith, 1174 W. Warren Ave., Detroit. Eggs are not strictly fresh, consisting wholly or in part of infected and tainted animal substance.

EVAPORATED MILK.

No. 33167, B-248. Sample of Globe Evaporated Milk manufactured by the National Condensed Milk Co., Chicago, and sold by the National Grocer Co., Sault Ste. Marie. Misbranded in that the formula for diluting is not in conformity with the statute.

FLAVORING PREPARATIONS.

No. 33165, B-246. Sample of Wigwam Vanilla manufactured by the Michigan Coffee & Spice Co., Menominee, and sold by Carpenter-Cook Co., Menominee. Misbranded in that the net contents is not stated on the label.

No. 33223, I-507. Sample of Vanilla Extract manufactured by Durand & Kasper Co., Chicago, and procured from Wm. Maxwell, Kalamazoo. Sample is not a pure vanilla extract. Not properly labeled.

No. 33224, I-508. Sample of Vanilla Extract manufactured by Du-
rand & Kasper Co., Chicago, and procured from Wm. Maxwell, Kalama-
zoo. Not properly labeled as an imitation extract.

HAMBURG STEAK.

No. 33169, V-17. Sample of Hamburg Steak procured from C. L.
Stall, 321 Parkview, Detroit. Sample contains added sulphurous acid
or salts thereof.

No. 33189, V-20. Sample of Hamburg Steak procured from J. W.
Slamer, 1148 Michigan Ave., Detroit. Sample contains added sulphur-
ous acid or salts thereof.

LARD AND LARD COMPOUND.

No. 31946, B-229. Sample of lard manufactured and sold by Wm. A.
Sack, Boyne City. Product is lard compound. Label stated gross
weight instead of net weight.

No. 32054, B-237. Sample of lard compound procured from Snell
& Burns, Sugar Island. Product is lard compound. Package not
stamped.

No. 33148, I-504. Sample of lard compound manufactured and sold
by the Bazley Market, Saginaw. Net weight not stated on package.

LINSEED OIL.

No. 33098, B-242. Sample of raw linseed oil manufactured by the
Noble Refining Co., Cleveland, Ohio, and procured from Henry Eoff,
Fountain. Not a pure linseed oil.

No. 33227, B-258. Sample of raw linseed oil manufactured by the
Noble Refining Co., Cleveland, Ohio, and procured from Henry Eoff,
Fountain. Not a pure linseed oil.

No. 33687, B-264. Sample of linseed oil procured from J. W. Ben-
nett & Son, Freesoil. Not a pure linseed oil.

No. 33724, B-266. Sample of boiled linseed oil procured from A. J.
Linsett, Rudyard. Not a pure oil.

MILK.

No. 33106, N-73. Sample of milk produced by John Trimble, Ashley,
R. F. D. No. 3. Below standard in specific gravity and total solids.
Contains about 30% added water.

No. 33107, N-74. Sample of milk produced by H. Rhynard, Ashley,
R. F. D. Below standard in specific gravity, butter fat and total solids.
Contains about 17% added water.

No. 33109, I-499. Sample of milk produced and sold by John Ginth-
ner, Bad Axe. Below standard in butter fat and total solids. A part
of the cream has been removed.

No. 33110, I-501. Sample of milk sold by Mrs. Burns, Bad Axe. Be-
low standard in butter fat and total solids. A part of the cream has
been removed.

No. 33111, I-502. Sample of milk sold by Mrs. Burns, Bad Ave. Be-

low standard in butter fat and total solids. A part of the cream has been removed.

No. 33149, B-243. Sample of milk procured from Sayles & Curtis Topinabee. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 33150, B-244. Sample of milk procured from Sayles & Curtis Topinabee. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 33220, W-61. Sample of milk procured from R. E. Waldo, Kalamazoo. Sample contains an excessive amount of visible dirt.

No. 33255, I-511. Sample of milk produced and sold by Roy L. Guilford, Laingsburg. Not a normal milk. Probably whole milk that has had skimmed milk added to it.

No. 33256, F-238. Sample of dry milk manufactured by the Clio Condensed Milk Co., Clio. Label claims it to be a pure milk product. Preparation is made from skimmed milk. Misbranded.

No. 33415, N-75. Sample of milk produced by Will Parker, Butternut. Below standard in butter fat and total solids.

No. 33416, N-76. Sample of milk produced by D. Hogan, Butternut. Below standard in butter fat and total solids.

No. 33603, N-77. Sample of milk produced by August Dux, Birch Run R. F. D. Below standard in specific gravity, butter fat and total solids. Sample contains about 22% added water.

MUSTARD.

No. 33677, F-248. Sample of Elks Pride Mustard manufactured by the Harbauer Co., Toledo, and sold by Rademaker & Dooge, Grand Rapids. Misbranded in that the net weight is not stated on the label.

OLEOMARGARINE.

No. 33190, V-19. Sample of oleomargarine procured from Alex. M. Wright, 819 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

No. 33193, B-250. Sample of oleomargarine procured from Ed. Johnson, Newberry. Sample is oleomargarine. No sign displayed in dining room.

PEA SEED.

No. 33602, I-517. One quart pea seed procured from B. A. Liverance & Co., Williamston. Short measure.

PORK.

No. 33151, G-1180. Sample of pork procured from the Iron River Mercantile Co., Iron River. Sample consists wholly or in part of tainted and infected meat.

SAUSAGE.

No. 33113, B-245. Sample of sausage procured from Geo. E. McKenzie, Johannesburg. Cereal 4.75%. Contains an excessive amount of cereal.

No. 33159, G-1181. Sample of bologna sausage manufactured by Steve Melka, Ishpeming. Cereal 3.92%. Sample contains an excessive amount of cereal.

No. 33161, G-1183. Sample of pork sausage manufactured by Steve Melka, Ishpeming, and procured from Fred Held, Ishpeming, Cereal 3.54%. Contains an excessive amount of cereal. Package or product not stamped to indicate cereal.

No. 33166, B-247. Sample of pork sausage manufactured and sold by A. Weston & Co., Newberry. Cereal 2.33%. Package or product not marked or stamped to indicate the presence of cereal.

No. 33531, B-261. Sample of pork sausage procured from T. H. Stevenson, Cheboygan. Cereal 6.77%. Contains an excessive amount of cereal.

No. 33547, G-1189. Sample of Frankfurt sausage procured from Fassenbender & Pearce, Marquette. Cereal present. Package or product not marked or stamped to indicate the presence of cereal.

SUGAR (BLENDED).

No. 33408, R-29. Sample of blended sugar sold by C. F. Smith, Detroit. Percentage of ingredients other than maple not stated on the label. Label is deceptive.

SYRUPS.

No. 33407, R-28. Sample of Maple Leaf Syrup manufactured by the Maple Leaf Syrup Co., Detroit. Misbranded in that the label is deceptive and misleading.

No. 33409, R-30. Sample of Maple Leaf Syrup manufactured by the Maple Leaf Syrup Co., Detroit. Misbranded in that the label is deceptive.

No. 33533, R-32. Sample of Pure Maple Syrup manufactured by Farley Bros., Almont. Cans have no label or statement of net contents.

No. 33550, I-516. Sample of Maple Syrup manufactured and sold by W. N. & R. H. Devine, Morgan. Misbranded in not having net volume stated.

TABLE SAUCE.

No. 33216, B-254. Sample of Wilco Table Sauce manufactured by the Williams Bros. Co., Detroit, and sold by the National Grocer Co., Sault Ste. Marie. Misbranded in that the net volume is not stated.

DRUG INSPECTIONS.

The following places were visited by the Department's drug inspection force during the months of March and April, 1915:

Allegan, Alma, Alto, Ann Arbor, Augusta, Bangor, Battle Creek, Bay City, Benton Harbor, Berrien Springs, Breedsville, Bridgeman, Buchanan, Byron Center, Cedar Springs, Charlotte, Clifford, Coloma, Coopersville, Detroit, Dowagiac, Fennville, Freeland, Fremont, Fruitport, Grand Rapids, Hartford, Hastings, Hemlock, Holland, Ionia, Ithaca, Jackson, Kalamazoo, Lake Odessa, Lansing, Lawton, Lowell, Lyons, Marine City, Merrill, Midland, Muskegon, Nashville, New Baltimore, Niles, Olivet, Orion, Owosso, Paw Paw, Port Huron, Ravenna, Rochester, Romeo, Saginaw, St. Joseph, St. Louis, Sand Lake, Saranac, Saugatuck, Springwells, Stanton, Unionville, Watervliet, Wayland, Ypsilanti, Zeeland.

May 1, 1915.

Hon. James W. Helme,
State Dairy and Food Commissioner,
Lansing, Michigan.

Dear Sir:—During March and April of this year there were analyzed in the Drug Division of this Department 156 official and 10 unofficial samples, the latter consisting of Local Option beverages. Of the 156 official samples 24, or about 15%, were found not to be in compliance with the requirements of the Drug law. Dividing, as in my previous reports, the samples into those manufactured by the retailer and those manufactured by commercial houses, we find that 32 of the samples listed in this number were retailers' products and 144 were manufactured by commercial houses. Of the retailers' products 46% failed to comply, while 7% of the commercial houses' products were found to be below standard. As the products for these two months are practically the same as those of the previous two months (January and February, 1915) and March and April of 1914, I would like for comparison, to call your attention to the following table:

Date.	Samples Analyzed.	Per cent failed to comply.	Retailers' samples analyzed.	Per cent failed to comply.	Pharmaceutical Hs. samples.	Per cent failed to comply.
Mar.-Apr., 1914.....	138	33 1/2	108	40	30	6
Jan.-Feb., 1915.....	117	22 2/3	47	36	69	13
Mar.-Apr., 1915.....	156	15.0	32	47	124	7

Some few of the preparations listed below deteriorate with age. This will explain why a few of them failed to comply. As to the others I can offer no reason for such a condition.

Yours very truly,

A. R. TODD,
State Drug Analyst.

DRUGS.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Camphorated oil.....	2	2	0
Cream of tartar.....	2	2	0
Digestion tablets.....	2	1	1
Emulsion cod liver oil.....	2	2	0
Elixir five bromides.....	7	7	0
Elixir potassium bromide.....	7	5	2
Elixir sodium bromide.....	6	5	1
Essence pepsin.....	4	3	1
Flavoring extracts.....	3	3	0
Fowlers solution.....	1	1	0
F. E. Aconite.....	2	2	0
F. E. Belladonna.....	2	2	0
F. E. Cinchona.....	2	2	0
F. E. Ipecac.....	2	2	0
F. E. Jamaica ginger.....	4	4	0
Glycerine.....	1	1	0
Hydrogen peroxide.....	1	1	0
Mercurial ointment.....	5	4	1
Olive oil.....	1	1	0
Dovers powders.....	1	1	0
Headache powders.....	1	1	0
Seidlitz powders.....	2	2	0
Proprietary preparations.....	4	4	0
Spirits camphor.....	6	6	0
Spirits nitre.....	2	0	2
Spirits peppermint.....	3	0	3
Syrup iodide of iron.....	1	1	0
Tablets Antiseptic.....	8	8	0
Tablets Hexamethylene.....	6	6	0
Tablets Methylene blue.....	5	5	0
Tablets Nitro-glycerine.....	5	4	1
Tablets Phenolphthalein.....	5	5	0
Tablets Potassium permanganate.....	6	6	0
Tablets Strychnine.....	7	7	0
Tr. Ferri Chloride.....	2	2	0
Tr. Ginger.....	5	2	3
Tr. Iodine.....	14	7	7
Tr. Opium.....	1	1	0
T. T. Acid arsenous.....	1	1	0
T. T. Calomel.....	9	9	0
Zinc oxide ointment.....	6	4	2
Totals.....	156	132	24

No. 33155, Q-590. Sample of Spirits Peppermint manufactured and sold by Mrs. E. V. Glass, Bath. Oil of peppermint 4.9%. Low in oil of peppermint.

No. 33209, Z-585½. Sample of Spirits of Peppermint manufactured and sold by John D. Strachan, Muir. Oil of peppermint 7.0%. Low in oil of peppermint.

TINCTURE GINGER.

No. 33117, Z-577. Sample of Tr. Ginger manufactured and sold by the Big Rapids Pharmacy, Big Rapids. Not U. S. P. Low in alcohol and ginger.

No. 33152, Q-587. Sample of Tr. Ginger manufactured and sold by Frain & Wert, Laingsburg. Not U. S. P. Low in alcohol and ginger.

No. 33157, Q-592. Sample of Tr. Ginger manufactured and sold by Mrs. E. V. Glass, Bath. Not U. S. P. Low in alcohol and ginger.

TINCTURE IODINE.

No. 33121, Z-581. Sample of Tr. Iodine manufactured and sold by M. F. Conway, Jackson. Low in iodine and potassium iodide.

No. 33122, Z-582. Sample of Tr. Iodine manufactured and sold by P. Keyser, Jackson. Low in iodine and potassium iodide.

No. 33200, Q-595. Sample of Tr. Iodine manufactured and sold by F. A. Schutte, Hemlock. Low in iodine and potassium iodide.

No. 33210, Z-586. Sample of Tr. Iodine manufactured and sold by E. B. Swift, Stanton. Low in iodine and potassium iodide.

No. 33555, Q-708. Sample of Tr. Iodine manufactured and sold by Blink & Kirchner, Saginaw. Low in iodine.

No. 33646, Q-728. Sample of Tr. Iodine manufactured and sold by J. F. Hartz Co., Detroit. Low in iodine and potassium iodide.

No. 33704, Z-615. Sample of Tr. Iodine manufactured and sold by C. B. Cretsinger, Kalamazoo. Low in iodine.

ZINC OXIDE OINTMENT.

No. 33229, Q-603. Sample of zinc oxide ointment manufactured by the American Druggists' Syndicate, New York. Low in zinc oxide.

No. 33259, Z-590. Sample of zinc oxide ointment manufactured and sold by Harry G. Allges, Wayland. Low in zinc oxide.

WEIGHTS AND MEASURES.

While we had no special weights and measures officials out during the months of March and April, the Food Inspectors of this Department while performing their duties as food inspectors, investigated into the conditions of scales and measures in the establishments in which they visited. The result is shown in the table below.

It is quite an argument on the necessity of having regular Sealers in all counties. If ten or twelve Food Inspectors from this Department by casual operations can discover such a large number of scales and measures that are illegal, it would seem that a regular weights and measures inspector could find a great many more. These weights and measures are being used every day, largely to the detriment of the public. Especially is to be noted the large number of dry and liquid measures which have been condemned. These largely come from the City of Detroit, where peddlers, hucksters and unscrupulous dealers in many instances depend upon illegal measures to help out their profits.

The following are the inspections and condemnations made by our regular Inspectors and do not include condemnations made by City and County Sealers:

	Correct.	Condemned.	Adjusted.
Railroad track scales.....			1
Hopper scales.....	3	1	
Wagon scales.....	6	4	1
Other platform scales.....	36	59	3
Suspension scales.....	1	21	
Counter scales.....	108	65	54
Spring balances.....	5	168	
Beam scales.....	14	19	1
Computing scales.....	248	119	165
Slot personal scales.....	1	1	
Cream test scales.....	2	1	
Patent scales.....	1	1	
Drug scales.....	2		
Dry measures.....	345	2,078	
Liquid measures.....	29	448	
Milk jars.....	12	2	
Automatic pumps.....	1		
Boxes.....	4	3	
Crates.....	2	4	
Yard sticks.....	8	8	
Counter measures.....	143	446	37
Tapes.....	37	18	
Weights.....	417	80	51

INDEX TO FEEDING STUFF MANUFACTURERS

WITH LIST OF BRANDS LICENSED FOR THE YEAR
ENDING MARCH 31, 1915.

	Page
Allegan Milling Co., Allegan, Mich.	
No. 1943. A. M. C. Bran.....	32
Almont Roller Mills, Almont, Mich.	
No. 1901. Success Scratch Feed.....	30
Amendt Milling Co., Monroe, Mich.	
No. 1944. AMCO Poultry Mash.....	32
No. 1986. AMCO Pigeon Feed.....	35
No. 1987. AMCO Scratch Grain.....	35
No. 1988. AMCO Chick Feed.....	35
No. 1989. AMCO No. 2 Chop Feed.....	35
No. 2090. AMCO Alfalfa Meal.....	41
American Hominy Co., Indianapolis, Ind.	
No. 1951. Homco Feed.....	33
No. 1952. Homcolline Feed.....	33
American Linseed Co., Chicago & New York.	
No. 2039. Old Process Linseed Oil Meal.....	38
No. 2071. Cleveland Linseed Oil Meal.....	40
American Malting Co., Detroit, Mich.	
No. 1965. Chicken Feed.....	33
American Milling Co., Chicago, Ill.	
No. 2045. Sucrene Dairy Feed.....	38
No. 2046. Sucrene Scratch Feed.....	38
No. 2047. Sucrene Scratch Feed with 5 per cent grit.....	38
No. 2048. Cluck Cluck Scratch Feed.....	39
No. 2049. Cluck Cluck Scratch Feed with 5 per cent grit.....	39
No. 2050. Tip Top Scratch Feed.....	39
No. 2051. Tip Top Scratch Feed with 5 per cent grit.....	39
No. 2052. Tip Top Chick Feed.....	39
No. 2053. Tip Top Chick Feed with 5 per cent grit.....	39
No. 2054. Sucrene Chick Feed.....	39
No. 2055. Sucrene Chick Feed with 5 per cent grit.....	39
No. 2116. AMCO Alfalfa Meal.....	43
No. 2117. AMCO Old Process Linseed Meal.....	43
No. 2118. Sucrene Horse & Mule Feed.....	43
No. 2210. Molasses Fat Maker.....	48
Arcady Farms Milling Co., Rondout, Ill.	
No. 2196. Arcady Dairy Feed.....	47
Archer-Daniels Linseed Co., Minneapolis, Minn.	
No. 2217. Old Process Ground Linseed Cake.....	49
Argo Milling Co., East Jordan, Mich.	
No. 2208. Bolted Corn Meal.....	48
Armour Fertilizer Works, Chicago, Ill.	
No. 2087. Armours Granulated Bone.....	41
No. 2088. Meat Meal.....	41
No. 2089. Blood Meal.....	41
Bad Axe Grain Co., Bad Axe, Mich.	
No. 2059. Egg Brand Poultry Feed.....	39
No. 2060. Axe Brand Ground Feed.....	39
No. 2177. Molasses Feed.....	46
J. J. Badenoeh Co., Chicago, Ill.	
No. 2112. C-er-lay.....	42
No. 2144. C-er-lay Fine Chick Feed.....	44
No. 2159. Sunflower Poultry Feed.....	45
No. 2160. Sunflower Fine Chick Feed.....	45
No. 2161. Sunflower Pigeon Feed.....	45
No. 2162. Sunflower Developing Feed.....	45
No. 2163. Egaday Meat Cereal Mash.....	45
Dwight M. Baldwin, Jr. (Baldwin Flour Mills) Minneapolis, Minn.	
No. 2091. Wheat Bran with not exceeding mill run of screenings.....	41
No. 2092. Wheat Shorts with not exceeding mill run, etc.....	41
No. 2093. Wheat Middlings with not exceeding mill run, etc.....	41

The Bartlett Co., Jackson, Mich.	Page
No. 1947. "National" Gluten.....	32
No. 2034. Bartlett's Malt Sugar Grains.....	35
No. 2035. Michigan "Farmer" Brand Cotton Seed Meal.....	35
No. 2096. Creamo Brand Cotton Seed Feed Meal.....	41
No. 2101. Michigan Farmer Brand of Tankage.....	42
No. 2192. Jersey Brand Cotton Seed Meal.....	47
No. 2193. Farmer Brand Gluten.....	47
J. W. Barwell, Waukegan, Ill.	
No. 1983. Blatchfords Pig Meal.....	35
No. 1984. Blatchfords "Mammoth Chick" Milk Mash.....	35
No. 1985. Blatchfords "Fill the Basket" Egg Mash.....	35
No. 2205. Blatchfords Calf Meal.....	48
Beck Cereal Co., Detroit, Mich.	
No. 2200. Royal Chop Feed.....	48
F. Becker, Grand Rapids, Mich.	
No. 2078. Feed Corn Meal.....	40
Big Diamond Mills Co. Minneapolis, Minn.	
No. 2198. Big Diamond Bran with ground screenings.....	48
No. 2199. Big Diamond Standard Middlings with ground screenings.....	48
Wm. Boardman, Benton Harbor, Mich.	
No. 2183. Success Chicken Feed.....	47
F. W. Brode & Co., Memphis, Tenn.	
No. 1970. Owl Brand Cotton Seed Meal.....	34
Buckeye Cotton Oil Co., Cincinnati, Ohio.	
No. 1981. 38 per cent Buckeye Cottonseed Meal.....	34
No. 2185. 41 per cent Buckeye Cottonseed Meal.....	47
W. J. Byrnes & Co., Chicago, Ill.	
No. 2106. Daisy Chick Feed.....	42
No. 2107. Royal Poultry Feed.....	42
Caughey & Swift Co., Detroit, Mich.	
No. 2202. CCC Chick Feed.....	45
Chapin & Co., Hammond, Ind.	
No. 2041. Unicorn Dairy Ration.....	36
No. 2042. Ajax Flakes.....	38
Cheboygan Flour Mills Co., Cheboygan, Mich.	
No. 2031. Corn Germ Meal.....	37
No. 2032. Highland Scratch Feed.....	37
C. W. Cheney Co., Eau Claire, Wis.	
No. 2148. Chicken Feed.....	45
Chicago Heights Oil Co., Chicago, Ill.	
No. 2157. "Heights" Corn Oilcake Meal.....	45
No. 2158. "Prize" Cooked Hog Feed.....	45
Clover Leaf Milling Co., Buffalo, N. Y.	
No. 1967. Clover Leaf Calf Meal.....	34
Clinton Sugar Refining Co., Clinton, Iowa.	
No. 2037. Clinton Corn Gluten Feed.....	35
The Commercial Milling Co., Detroit, Mich.	
No. 1972. Henkels Chop Feed.....	34
No. 1973. Henkels Coarse Feed Corn Meal.....	34
No. 1977. Standard Wheat Middlings with screenings.....	34
No. 1978. Wheat Mixed Feed with screenings.....	34
G. E. Conkey Co., Cleveland, Ohio.	
No. 1822. Conkey's Starting Food (for Chicks).....	31
Continental Cereal Co., Peoria, Ill.	
No. 2094. Continental Gluten Feed.....	41
Corn Products Refining Co., New York.	
No. 1953. Diamond Hog Meal.....	33
No. 1954. Diamond Corn Gluten Meal.....	33
No. 1955. Buffalo Corn Gluten Feed.....	33
William G. Crocker, Minneapolis, Minn.	
No. 1916. Wheat Bran with ground screenings.....	31
No. 1917. Wheat Standard Middlings with ground screenings.....	31
No. 1918. Wheat Mixed Feed with ground screenings.....	31
No. 1919. Wheat Flour Middlings with ground screenings.....	31
Cronenwett & Sons, Detroit, Mich.	
No. 2153. Manhattan Stock Food.....	45
No. 2154. Manhattan Poultry Food.....	45

	Page
Cudahy Brothers Co., Cudahy, Wis.	
No. 1958. Badger Brand Blood Meal.....	33
No. 1959. Badger Brand Poultry Bone.....	33
No. 1960. Badger Meat Meal.....	33
Darling & Co., Chicago, Ill.	
No. 2082. Darling's High Protein Meat Scraps.....	41
No. 2083. Darling's Standard Meat Scraps.....	41
No. 2084. Darling's Meat Crisps.....	41
No. 2085. Darling's Granulated Bone.....	41
No. 2086. Darling's 60 percent Protein Digester Tankage.....	41
Darrah Milling Co., Big Rapids, Mich.	
No. 2063. Unbolted Corn Meal.....	39
S. P. Davis, Little Rock, Ark.	
No. 1966. Good Luck Brand Cotton Seed Meal.....	33
C. E. DePuy Co., Stockbridge, Mich.	
No. 2103. Peerless Scratch Feed.....	42
No. 2104. Victor Chick Feed.....	42
Dewey Bros. Co., Blanchester, Ohio.	
No. 2072. Eagle Three D Grains.....	40
The Albert Dickinson Co., Chicago, Ill.	
No. 2127. Pine Tree Scratch Feed.....	43
No. 2128. Globe Scratch Feed.....	43
No. 2129. Globe Developing Feed.....	43
No. 2130. Crescent Chick Feed.....	43
No. 2131. Globe Egg Mash.....	44
No. 2132. White Cross Scratch Feed.....	44
No. 2133. White Cross Chick Feed.....	44
No. 2134. White Cross Stock Feed.....	44
No. 2135. Globe Chick Feed.....	44
No. 2136. White Cross Horse Feed.....	44
No. 2137. Alfalfa Meal.....	44
No. 2138. Queen Poultry Mash.....	44
No. 2139. King Pigeon Feed.....	44
Douglas & Co., Cedar Rapids, Iowa.	
No. 2006. Douglas Corn Gluten Feed.....	36
Duluth Superior Milling Co., Duluth, Minn.	
No. 2221. Ground Feed (Corn and Oats).....	49
East St. Louis Cotton Oil Co., National Stock Yards, Ill.	
No. 1949. Choice Cotton Seed Meal.....	33
R. D. Eaton Grain & Feed Co., Norwich, N. Y.	
No. 2206. Eaton's Perfection Mash Mixture for Laying Fowls.....	48
Edwards & Loomis Co., Chicago, Ill.	
No. 1929. Glen Oak Dairy Feed.....	31
No. 1930. Greeno Horse & Cattle Feed.....	31
No. 1931. Harvest Horse Feed.....	31
No. 1932. Pioneer Horse & Cattle Feed.....	31
No. 1933. Excelsior Horse Feed.....	31
No. 1934. Cackle Fine Chick Feed with Grit.....	32
No. 1935. Cackle Poultry Feed with Grit.....	32
No. 1936. Red Comb Pigeon Feed with Grit.....	32
No. 1937. Red Comb Meat Mash.....	32
No. 1938. Red Comb Fine Chick Feed with Grit.....	32
No. 1939. Red Comb Coarse Chick Feed with Grit.....	32
No. 1940. Pound Squab Pigeon Feed.....	32
No. 1941. Red Comb Poultry Feed with Grit.....	32
No. 1942. Morning Glory Scratch Feed with Grit.....	32
No. 2113. Red Comb Alfalfa Meal.....	42
Evans Milling Co., Indianapolis, Ind.	
No. 1956. Evans Hominy Feed.....	33
Everett, Augenbaugh & Co., Waseca, Minn.	
No. 1975. EACO Wheat Middlings and Ground Screenings.....	34
No. 1976. EACO Wheat Bran and Ground Screenings.....	34
Feeders Supply Co., Kansas City, Mo.	
No. 2176. Equity Brand Cottonseed Meal.....	46
Wm. Fluemer, Mt. Clemens, Mich.	
No. 2038. Fluemers Chicken Feed.....	38
O. Gandy & Co., South Whitley, Ind.	
No. 1920. Standard "A" Poultry Feed.....	31
No. 1921. Standard "A" Chick Feed.....	31
Golden Grain Milling Co., East St. Louis, Ill.	
No. 1948. Golden Grain Horse & Mule Feed.....	32

Wm. Goodrich & Co., Milwaukee, Wis.	
No. 2165. Old Process Ground Linseed Cake.....	Page 46
Grand Rapids Brewing Co., Grand Rapids, Mich.	
No. 1957. Dried Brewers Grains.....	33
Grand Rapids Grain & Milling Co., Grand Rapids, Mich.	
No. 2040. Purity Scratch Feed.....	38
Hankey Milling Co., Petoskey, Mich.	
No. 2043. Bran with Mill Run of Screenings.....	38
No. 2044. Feed Meal.....	38
Hannah & Lay Co., Traverse City, Mich.	
No. 2216. Fine Feed.....	49
Henderson & Son, Grand Rapids, Mich.	
No. 1968. Corn Meal.....	34
A. L. Hibbard, Sturgis, Mich.	
No. 2005. No. 1 Chop.....	36
Hirst & Begley Linseed Co., Chicago, Ill.	
No. 2073. Hirst & Begley Ground Linseed Cake.....	40
Hottelet & Co., Milwaukee, Wis.	
No. 2115. Holstein Malt Brewers Grains.....	43
Hubbard Milling Co., Mankato, Minn.	
No. 2140. Flaky Bran.....	44
Humphreys-Godwin Co., Memphis, Tenn.	
No. 2064. Dixie Brand Cottonseed Meal.....	39
Huron Milling Co., Harbor Beach, Mich.	
No. 1991. Jenks Mixed Feed.....	35
No. 1992. Jenks Gluten Feed.....	35
A. Hyde & Son, Grand Rapids, Mich.	
No. 2211. Coarse Corn Meal.....	48
B. B. Hyde, Port Huron, Mich.	
No. 2099. Ideal Poultry Feed.....	42
Illinois Feed Mills, St. Louis, Mo.	
No. 2120. Feed Well Scratch Feed with Grit.....	43
Imperial Cotto Milling Co., Peoria & Chicago, Ill.	
No. 2220. Imperial Cotto Brand Choice Cotton Seed Meal.....	49
International Stock Food Co., Minneapolis, Minn.	
No. 2170. International Grofast Calf Meal.....	46
International Sugar Feed Co., Minneapolis, Minn.	
No. 2203. International Special Dairy Feed.....	48
No. 2204. International Climax Feed.....	48
Kellogg Toasted Corn Flake Co., Battle Creek, Mich.	
No. 2000. Corn Flake Feed.....	36
No. 2001. Dried Brewers Grains.....	36
No. 2002. Broken Wheat Biscuit Feed.....	36
No. 2187. Invincible Dairy Feed.....	47
J. B. Kern & Sons, Milwaukee, Wis.	
No. 2146. Eagle Bran with Screenings.....	45
No. 2147. Eagle Standard Middlings with Screenings.....	45
No. 2171. Eagle Red Dog.....	46
King Milling Co., Lowell, Mich.	
No. 1961. King Corn Meal.....	33
No. 1962. King Corn & Oat Feed.....	33
No. 2169. Kimco Bran.....	46
No. 2213. Kimco Middlings.....	49
Chas. A. Krause Milling Co., Milwaukee, Wis.	
No. 2121. Choice Alfalfa Meal.....	43
No. 2122. Badger Evergreen Feed.....	43
No. 2123. Badger Fancy Middlings.....	43
No. 2124. Badger Fancy Mixed Feed.....	43
No. 2125. Badger Hominy Feed.....	43
No. 2126. Badger Stock Feed.....	43
Larrowe Milling Co., Detroit, Mich.	
No. 1911. Larro-Mash.....	30
No. 2056. Larro-Feed.....	39
Laxo Cake Meal Co., Chicago, Ill.	
No. 1963. Old Process "Laxo" Cake Meal.....	33

	Page
Lichtenberg & Son, Detroit, Mich.	
No. 2108. Faramel Horse Feed.....	42
No. 2109. Faramel Summer Horse Feed.....	42
No. 2110. Faramel Dairy Feed.....	42
No. 2111. Lichtenberg's Chop Feed.....	42
L. B. Lovitt & Co., Memphis, Tenn.	
No. 2207. Lovitt Brand Cotton Seed Meal.....	48
John C. Martin & Co., Mineral Point, Wis.	
No. 1982. Martin's Calf Feed.....	35
McLaughlin-Ward & Co., Jackson, Mich.	
No. 2036. Crown Brand Scratch Feed.....	38
McMorrin Milling Co., Port Huron, Mich.	
No. 2105. Protean Dairy Feed.....	42
No. 2145. Crest Brand Poultry Feed.....	44
No. 2149. Crest Brand Chop Feed.....	45
Memphis Cotton Hull & Fibre Co., Ltd., Memphis, Tenn.	
No. 2007. "Cyclone" Feed Meal.....	36
Menominee River Sugar Co., Menominee, Mich.	
No. 1990. Sugar Beet Molasses.....	35
Meridian Grain & Elevator Co., Meridian, Miss.	
No. 2209. Tip Top Choice Cotton Seed Meal.....	48
Metzger Seed & Oil Co., Toledo, Ohio.	
No. 1971. Old Process Oil Meal.....	34
Michigan Cereal Co., Port Huron, Mich.	
No. 2095. Pea Bran.....	41
Midland Linseed Products Co., Minneapolis, Minn.	
No. 1996. Midland Brand Pure Old Process Ground Linseed Cake.....	35
Millenbach Brothers Co., Detroit, Mich.	
No. 1946. Millenbach's Mixed Beef Scraps.....	32
Minnesota Linseed Oil Co., Minneapolis, Minn.	
No. 2155. Ground Oil Cake.....	45
Model Milling Co., Port Huron, Mich.	
No. 2097. Model Scratch Feed.....	41
No. 2098. Model Egg Mash.....	41
National Food Co., Fond du Lac, Wis.	
No. 2004. No-Milk Calf Food.....	36
K. & E. Neumond, St. Louis, Mo.	
No. 2225. "Goldnes Kalb" Brewers Dried Grains.....	49
New Prague Flouring Mill Co., New Prague, Minn.	
No. 2142. "Seal of Minnesota" Bran.....	44
Northrup, King & Co., Minneapolis, Minn.	
No. 2008. Sterling Hen Feed.....	36
No. 2009. Sterling Chick Feed.....	36
No. 2010. Sterling Baby Chick Starter.....	36
Northwestern Consolidated Milling Co., Minneapolis, Minn.	
No. 1906. Wheat Flour Middlings with Ground Screenings.....	30
No. 1907. Wheat Standard Middlings with Ground Screenings.....	30
W. C. Northern, Little Rock, Ark.	
No. 2074. "Bee" Brand Cotton Seed Meal.....	40
Peninsular Milling Co., Flint, Mich.	
No. 2156. Wheat Bran with Ground Screenings.....	45
M. C. Peters Mill Co., Omaha, Neb.	
No. 2057. Peters' June Pasture Dairy Meal.....	39
No. 2173. Alfalfa Queen Mills Dairy Feed.....	46
Pillsbury Flour Mills Co., Minneapolis, Minn.	
No. 1902. Pillsbury's Wheat Bran with Ground Screenings.....	30
No. 1903. Pillsbury's Wheat Standard "B" Middlings with Screenings.....	30
No. 1904. Pillsbury's Wheat "A" Middlings with Ground Screenings.....	30
No. 1905. Pillsbury's Fancy Wheat Mixed Feed with Ground Screenings.....	30
Portland Milling Co., Portland, Mich.	
No. 2066. Champion Mixed Feed with Ground Screenings.....	40
No. 2067. Puritas Corn & Oat Feed.....	40

Postum Cereal Co., Ltd., Battle Creek, Mich.	Page
No. 2011. Pearl Meal.....	36
No. 2012. C. X. Feed.....	36
No. 2013. G. N. Feed.....	36
No. 2014. Special Feed.....	36
No. 2015. Barley Bran.....	37
No. 2016. Chicken Feed.....	37
No. 2017. Flaked Corn Feed.....	37
No. 2018. Cereal Feed.....	37
Pratt Food Co., Philadelphia & Chicago.	
No. 1995. Pratt's Baby Chick Food.....	35
Quaker Oats Co., Chicago, Ill.	
No. 2019. Maz-All Corn Feed.....	37
No. 2020. Old Tavern Chick Feed.....	37
No. 2021. Old Tavern Scratch Feed.....	37
No. 2022. Schumacher Little Chick Feed.....	37
No. 2023. Schumacher Scratch Grains.....	37
No. 2024. Quaker Scratch Grains.....	37
No. 2025. Schumacher Calf Meal.....	37
No. 2026. Schumacher Stock Feed.....	37
No. 2027. Victor Feed.....	37
No. 2028. Quaker Chick Feed.....	37
No. 2029. American Hen Scratch Grains.....	37
No. 2222. Quaker Dairy Feed with Molasses.....	49
No. 2223. Blue Ribbon Dairy Feed.....	49
Ralston Purina Co., St. Louis, Mo.	
No. 2076. Purina Dairy Feed.....	40
No. 2077. Purina Feed with Molasses.....	40
No. 2079. Purina Chick Feed.....	40
No. 2080. Purina Scratch Feed.....	40
No. 2081. Purina Chicken Chowder with Charcoal.....	41
No. 2143. Purina Sweet Feed.....	44
M. G. Rankin & Co., Milwaukee, Wis.	
No. 2150. Bran with Ground Screenings.....	45
Roach & Seeber, Houghton, Mich.	
No. 2058. Roseco Scratch Feed.....	39
Ryde & Co., Chicago, Ill.	
No. 1927. Ryde's Cream Calf Meal.....	31
Scheuren & Mok, Detroit, Mich.	
No. 2166. Chop Feed.....	46
No. 2167. Coxcomb Chick Feed.....	46
No. 2168. Eagle Mixed Feed.....	46
Joseph Schlitz Brewing Co., Milwaukee, Wis.	
No. 1950. Schlitz Purity Dried Grains.....	33
Scofield & Son, Jackson, Mich.	
No. 1945. Scofield's Dry Mash.....	32
Security Remedy Co., Minneapolis, Minn.	
No. 2224. Security Calf Food Compound.....	49
Sheffield-King Milling Co., Minneapolis, Minn.	
No. 1993. "Whitehope" Middlings.....	35
No. 1994. "Fairbow" Middlings.....	35
No. 2172. Fancy Brodflake Wheat Bran & Ground Wheat Screenings.....	46
Sherwin-Williams Co., Cleveland, Ohio.	
No. 2174. Sherwin-Williams Linseed Oil Meal.....	46
Spencer-Kellogg & Sons, Inc., New York.	
No. 2214. Pure Old Process Oil Meal made from Linseed Cake.....	49
Sprague, Warner & Co., Chicago, Ill.	
No. 1979. Chico Brand Chick Feed.....	34
No. 1980. Cero Brand Poultry Feed.....	34
Spratts' Patent (America) Ltd., Newark, N. J.	
No. 2061. Poultry Food, No. 3.....	39
No. 2062. Ground Meat.....	39
Standard Grocer & Milling Co., Holland, Mich.	
No. 2186. Standard Scratch Feed.....	47
Star of the West Milling Co., Frankenmuth, Mich.	
No. 2003. "Special Feed".....	36
Star & Crescent Milling Co., Chicago, Ill.	
No. 2194. Star and Crescent Bran.....	47
No. 2195. Star Middlings.....	47
Bernard Stern & Sons Inc., Milwaukee, Wis.	
No. 2151. Atlas Wheat Flour Middlings with Ground Screenings.....	45
No. 2152. Atlas Wheat Bran with Ground Screenings.....	45

Stockbridge Elevator Co., Jackson, Mich.	Page
No. 2188. Improved German Calf Meal.....	47
David Stott, Detroit, Mich.	
No. 2114. Winner Chop Feed.....	43
No. 2197. Stott's Spring Wheat Bran & Wheat Screenings.....	48
F. J. Stuart, Pontiac, Mich.	
No. 2102. Stuarts' Chicken Feed.....	42
Swift & Co., Chicago, Ill.	
No. 1923. Swifts Digger Tankage.....	31
No. 1924. Swifts Meat Meal.....	31
No. 1925. Swifts Meat Scraps.....	31
No. 1926. Swifts Blood Meal.....	31
Tennessee Fibre Co., Memphis, Tenn.	
No. 2215. Creamo Brand Cotton Seed Feed.....	49
L. Teweles & Co., Milwaukee, Wis.	
No. 1974. Badger Brand Chicken Feed.....	34
Texas Cake & Linter Co., Dallas, Texas.	
No. 2184. Texoma Brand High Grade Cotton Seed Meal.....	47
Thunder Bay Milling Co., Alpena, Mich.	
No. 2068. Bradford's Coarse Corn Meal.....	40
No. 2164. Thunder Bay Scratch Feed.....	46
Toledo Seed & Oil Co., Toledo, Ohio.	
No. 1969. Major Brand Old Process Oil Meal.....	34
The Ubiko Milling Co., Cincinnati, Ohio.	
No. 1999. Union Grains Ubiko Biles Ready Dairy Ration.....	35
Union Brokerage & Commission Co., Vicksburg, Miss.	
No. 2175. "Durjan" Cotton Seed Meal.....	46
Union Seed & Fertilizer Co., 27 Beaver St., New York.	
No. 2189. "Yellow Tag" Choice Cotton Seed Meal.....	47
No. 2190. "American Red Tag" Cotton Seed Meal.....	47
United States Frumentum Co., Detroit, Mich.	
No. 1964. Frumentum Hominy Feed.....	33
Valley City Milling Co., Grand Rapids, Mich.	
No. 1997. Farmers Favorite Coarse Corn Meal.....	35
No. 1998. Farmers Favorite Cow Feed.....	35
No. 2119. Farmers Favorite Bran.....	43
No. 2212. Farmers Favorite Middlings.....	49
Van Eyck-Weurding Milling Co., Holland, Mich.	
No. 2075. Poultry Feed.....	40
Washburn-Crosby Co., Minneapolis, Minn.	
No. 1912. Wheat Bran with Ground Screenings.....	30
No. 1913. Wheat Standard Middlings with Ground Screenings.....	30
No. 1914. Wheat Mixed Feed with Ground Screenings.....	30
No. 1915. Wheat Flour Middlings with Ground Screenings.....	30
Wash. Co. Alfalfa Mixed Feed & Milling Co., Fort Calhoun, Neb.	
No. 2191. Alfalgreen.....	47
No. 2201. Butler Special Horse Feed.....	48
Watson Bros., Detroit, Mich.	
No. 1928. Excelsior Stock Food.....	31
Watson-Higgins Milling Co., Grand Rapids, Mich.	
No. 2180. Fine Corn Meal.....	47
No. 2181. Perfection Scratch Feed.....	47
No. 2182. Perfection Chick Feed.....	47
Joseph Wellman's Sons, Port Huron, Mich.	
No. 2065. Mixed Chicken Feed.....	39
West Branch Mfg. Co., West Branch, Mich.	
No. 2033. Street Car Feed.....	38
Western Grain Products Co., Hammond, Ind.	
No. 1908. Hammond Dairy Feed.....	30
No. 1909. Chicago Alfalfa Horse & Mule Feed.....	30
No. 1910. Hammond Horse Feed.....	30
Wilbur Stock Food Co., Milwaukee, Wis.	
No. 2141. Wilbur Poultry Tonic.....	44
Carl C. Wright, Owosso, Mich.	
No. 2069. Occident Chick Feed.....	40
No. 2070. Wright's Mixture (Scratch Feed).....	40
Wykes & Co., Grand Rapids, Mich.	
No. 2178. Y. X. Choice Cottonseed Meal.....	46
No. 2179. Y. X. Corn Meal.....	47

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915).

Year	Manufacturer and address.	Brand.	Protein. Per cent.	Crude fibre. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1901	Almont Roller Mills, Almont, Mich.	Success Scratch Feed	9.28 11.63	2.90 2.60	69.52 70.72	3.30 3.05
1902	Pillsbury Flour Mills Co., Minneapolis, Minn.	Pillsbury's Wheat Bran with ground screenings not exceeding mill run.	14.50 16.45	12.00 11.40	52.45	4.00 4.45
1903	Pillsbury Flour Mills Co., Minneapolis, Minn.	Pillsbury's Wheat Standard "B" Middlings with ground screenings, etc.	13.00 16.45	10.00 9.62	54.22	4.50 4.27
1904	Pillsbury Flour Mills Co., Minneapolis, Minn.	Pillsbury's Wheat "A" Middlings with ground screenings, etc.	15.00	7.00	57.00	4.50
1905	Pillsbury Flour Mills Co., Minneapolis, Minn.	Pillsbury's Fancy Wheat Mixed Feed with ground screenings, etc.	16.00	9.00	57.00	4.50
1906	Northwestern Consolidated Milling Co., Minneapolis, Minn.	Wheat Flour Middlings with ground screenings not exceeding mill run.	15.50	6.00	57.00	4.50
1907	Northwestern Consolidated Milling Co., Minneapolis, Minn.	Wheat Standard Middlings with ground screenings, etc.	15.00 15.84	11.00 8.43	53.00 57.12	4.50 4.71
1908	Western Grain Products Co., Hammond, Ind.	Hammond Dairy Feed	16.50 16.46	11.00 11.50	50.68	3.50 4.31
1909	Western Grain Products Co., Hammond, Ind.	Chicago Alfalfa Horse & Mule Feed	10.00	15.00	50.68	3.00
1910	Western Grain Products Co., Hammond, Ind.	Hammond Horse Feed	12.00 14.65	11.00 8.46	56.48	2.80 3.67
1911	Larroe Milling Co., Detroit, Mich.	Larroe Mash	25.00 25.20	10.00 8.05	44.00 48.67	3.00 2.96
1912	Washburn-Crosby Co., Minneapolis, Minn.	Wheat Bran with Ground screenings not exceeding mill run.	14.50 14.58	12.00 11.40	52.77	4.00 5.05
1913	Washburn-Crosby Co., Minneapolis, Minn.	Wheat Standard Middlings with ground screenings, etc.	15.00 16.45	9.50 8.30	55.82	5.00 4.93
1914	Washburn-Crosby Co., Minneapolis, Minn.	Wheat Mixed Feed with ground screenings not exceeding mill run.	16.00	9.00	57.55	4.50
1915	Washburn-Crosby Co., Minneapolis, Minn.	Wheat Flour Middlings with ground screenings not exceeding mill run.	17.00 18.11	8.50 8.65	56.30	5.00 5.20

1916	Wm. G. Crocker, Minneapolis, Minn.	Wheat Bran with ground screenings not exceeding mill run.	Guaranteed Found.	14.50 14.79	12.00 12.04	49.74	4.00 4.33
1917	Wm. G. Crocker, Minneapolis, Minn.	Wheat Standard Middlings with ground screenings, etc.	Guaranteed Found.	15.00 15.08	9.50 7.47	56.40	5.00 5.33
1918	Wm. G. Crocker, Minneapolis, Minn.	Wheat Mixed Feed with ground screenings not exceeding mill run.	Guaranteed Found.	16.00 16.63	9.00 7.43	57.41	4.50 4.97
1919	Wm. G. Crocker, Minneapolis, Minn.	Wheat Flour Middlings with ground screenings not exceeding mill run.	Guaranteed Found.	17.00 17.06	6.50 5.35	57.98	5.00 5.34
1920	O. Gandy & Co., South Whitley, Ind.	Standard A Poultry Feed.	Guaranteed Found.	9.50 11.20	2.50 2.77	71.56	3.32
1921	O. Gandy & Co., South Whitley, Ind.	Standard A Chick Feed.	Guaranteed Found.	10.00	2.50		
1922	The G. E. Conkey Co., Cleveland, Ohio.	Conkey's Starting Food for Chicks.	Guaranteed Found.	12.00 18.20	4.00 2.77	56.00 58.01	4.00 4.27
1923	Swift & Co., Chicago, Ill.	Swift's Digester Tankage.	Guaranteed Found.	60.00 61.60	3.00	8.00	11.51
1924	Swift & Co., Chicago, Ill.	Swift's Meat Meal.	Guaranteed Found.	46.00 56.00	3.00	6.00	6.60
1925	Swift & Co., Chicago, Ill.	Swift's Meat Scraps.	Guaranteed Found.	50.00 56.70	3.00	8.00	11.10
1926	Swift & Co., Chicago, Ill.	Swift's Blood Meal.	Guaranteed Found.	80.00 87.15	3.00		
1927	Ryde & Co., Chicago, Ill.	Ryde's Cream Calf Meal.	Guaranteed Found.	25.00 25.99	6.00 5.30		5.00 4.55
1928	Watson Bros., Detroit, Mich.	Excelsior Stock Food.	Guaranteed Found.	9.28 9.63	2.00 1.98	54.47 56.72	9.55 9.47
1929	Edwards & Loomis Co., Chicago, Ill.	Glen Oak Dairy Feed.	Guaranteed Found.	15.00	9.00	50.00	3.5
1930	Edwards & Loomis Co., Chicago, Ill.	Greeno Horse & Cattle Feed.	Guaranteed Found.	10.00 14.09	26.00 14.75	40.00 49.22	.50 .67
1931	Edwards & Loomis Co., Chicago, Ill.	Harvest Horse Feed.	Guaranteed Found.	9.00 13.13	15.00 10.30	50.00 61.73	2.00 1.99
1932	Edwards & Loomis Co., Chicago, Ill.	Pioneer Horse & Cattle Feed.	Guaranteed Found.	7.50	8.00	60.00	2.50
1933	Edwards & Loomis Co., Chicago, Ill.	Excelsior Horse Feed.	Guaranteed Found.	10.00	8.00	60.00	3.00

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915).—Continued.

Loomis No.	Manufacturer and address.	Brand.	Protein. Per cent.	Crude fibre. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1934	Edwards & Loomis Co., Chicago, Ill.	Cackle Fine Chick Feed with grit. Guaranteed Found.	9.50 10.85	5.00 2.03	60.00 70.45	2.50 2.87
1935	Edwards & Loomis Co., Chicago, Ill.	Cackle Poultry Feed with grit. Guaranteed Found.	9.50 11.20	5.00 3.25	60.00 65.64	2.50 3.87
1936	Edwards & Loomis Co., Chicago, Ill.	Red Comb Pigeon Feed with grit. Guaranteed Found.	10.00 12.42	5.00 3.05	60.00 66.73	2.50 3.50
1937	Edwards & Loomis Co., Chicago, Ill.	Red Comb Meat Mash. Guaranteed Found.	15.00 16.10	8.00 6.55	45.00 59.30	4.00 8.95
1938	Edwards & Loomis Co., Chicago, Ill.	Red Comb Fine Chick Feed with grit. Guaranteed Found.	10.00 10.94	5.00 2.45	60.00 71.18	2.50 3.33
1939	Edwards & Loomis Co., Chicago, Ill.	Red Comb Coarse Chick Feed with grit. Guaranteed Found.	12.25 10.00	5.00 2.35	60.00 67.37	2.50 2.72
1940	Edwards & Loomis Co., Chicago, Ill.	Pound Squab Pigeon Feed. Guaranteed Found.	10.00 11.73	5.00 3.80	60.00 70.68	2.50 4.02
1941	Edwards & Loomis Co., Chicago, Ill.	Red Comb Poultry Feed with Grit. Guaranteed Found.	10.00 11.03	5.00 2.70	60.00 70.02	2.50 2.80
1942	Edwards & Loomis Co., Chicago, Ill.	Morning Glory Scratch Feed with grit. Guaranteed Found.	9.50 11.02	5.00 3.35	60.00 70.31	2.50 3.17
1943	Allegan Milling Co., Allegan, Mich.	A. M. C. Brand. Guaranteed Found.	14.09 15.84	9.35 7.95	65.31 56.98	3.65 4.05
1944	Amend Milling Co., Monroe, Mich.	AMCO Poultry Mash. Guaranteed Found.	18.99 20.12	7.80 7.95	61.18 52.72	3.13 5.46
1945	Scofield & Son, Jackson, Mich.	Scofield's Dry Mash. Guaranteed Found.	17.41	8.00	53.21	4.83
1946	Millenbach Bros. Co., Detroit, Mich.	Millenbach's Mixed Beef Scraps. Guaranteed Found.	45.00 46.72			10.00 11.66
1947	J. E. Bartlett Co., Jackson, Mich.	National Gluten Feed. Guaranteed Found.	25.00 21.70	10.00 11.15	50.71	6.00 2.29
1948	Golden Grain Milling Co., East St. Louis, Ill.	Golden Grain Horse & Mule Feed. Guaranteed Found.	10.00 11.15	12.00 11.02	55.00 61.58	2.00 2.12

1949	East St. Louis Cotton Oil Co., National Stock Yards, Ill.	Choice Cotton Seed Meal	Guaranteed Found	41.00 43.14	10.00 7.90	26.00 27.76	7.00 9.15
1950	Jos. Schlitz Brewing Co., Milwaukee, Wis.	Schlitz Purity Dried Grains	Guaranteed Found	24.00 27.13	16.00 16.30	40.00 40.57	6.00 5.90
1951	American Hominy Co., Indianapolis, Ind.	Homco Feed	Guaranteed Found	9.50 10.33	7.00 5.63	58.00 65.26	7.00 6.88
1952	American Hominy Co., Indianapolis, Ind.	Homocline Feed	Guaranteed Found	17.00 17.15	7.00 6.47	52.00 55.01	5.00 5.12
1953	Corn Products Refining Co., New York	Diamond Hog Meal	Guaranteed Found	20.00 21.35	13.00 7.65	50.00 45.28	9.00 17.59
1954	Corn Products Refining Co., New York	Diamond Corn Gluten Meal	Guaranteed Found	40.00 43.75	4.00 1.30	50.00 40.55	1.50 2.15
1955	Corn Products Refining Co., New York	Buffalo Corn Gluten Feed	Guaranteed Found	23.00 23.54	8.50 7.40	50.00 54.45	1.00 2.11
1956	Evans Milling Co., Indianapolis, Ind.	Evans Hominy Feed	Guaranteed Found	10.00	7.00	55.00	7.50
1957	Grand Rapids Brewing Co., Grand Rapids, Mich.	Dried Brewers Grains	Guaranteed Found	25.37	13.50	37.78	7.50
1958	Cudahy Bros. Co., Cudahy, Wis.	Badger Brand Blood Meal	Guaranteed Found	80.00 80.32	1.00	3.00	.05 .88
1959	Cudahy Bros. Co., Cudahy, Wis.	Badger Brand Poultry Bone	Guaranteed Found	25.00 26.16	1.00	3.00	6.00
1960	Cudahy Bros. Co., Cudahy, Wis.	Badger Meat Meal	Guaranteed Found	60.00 63.00	5.00	1.00	8.00 9.71
1961	King Milling Co., Lowell, Mich.	King Corn Meal	Guaranteed Found	9.54 9.97	3.60 2.71	66.99 69.82	7.35 7.26
1962	King Milling Co., Lowell, Mich.	King Corn and Oat Feed	Guaranteed Found	10.06 10.50	5.54 4.65	65.09 68.95	6.63 6.40
1963	Lazo Cake Meal Co., Chicago, Ill.	Old Process "Lazo" Cake Meal	Guaranteed Found	25.00 24.94	12.00 10.26	43.25	6.00 7.40
1964	United States Frumentum Co., Detroit, Mich.	Frumentum Hominy Feed	Guaranteed Found	9.50 11.46	7.00 4.37	63.00 66.56	7.30 9.13
1965	American Maling Co., Detroit, Mich.	Chicken Feed	Guaranteed Found	12.95 11.20	4.90 8.56	63.94 65.02	3.00 2.73
1966	S. P. Davis & Co., Little Rock, Ark.	Good Luck Cotton Seed Meal	Guaranteed Found	41.00 41.13	10.50 6.95	24.00 28.02	7.00 9.45

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915).—Continued.

Lot No.	Manufacturer and address.	Brand.	Guaranteed Found	Protein, Per cent.	Crude fibre, Per cent.	Nitrogen— Free extract, Per cent.	Ether extract, Per cent.
1967	Clover Leaf Milling Co., Buffalo, N. Y.	Clover Leaf Calf Meal.	Guaranteed Found	25.00 26.34	7.00 6.13	48.22	7.00 7.13
1968	Henderson Milling Co., Grand Rapids, Mich.	Corn meal	Guaranteed Found	8.75 9.10	1.25 1.37	73.16	4.20 4.01
1969	The Toledo Seed & Oil Co., Toledo, Ohio	Major Brand Old Process Oil Meal	Guaranteed Found	30.00 30.19	10.00 7.75	42.86	6.45
1970	F. W. Brode Co., Memphis, Tenn.	Owl Brand Cotton Seed Meal	Guaranteed Found	41.00 41.74	10.00 5.07	6.50 27.96	10.83
1971	The Metzger Seed & Oil Co., Toledo, Ohio	Old Process Oil Meal	Guaranteed Found	39.00 33.08	10.00 6.71	41.29	5.00 6.12
1972	The Commercial Milling Co., Detroit, Mich.	Henkel's Chop Feed.	Guaranteed Found	8.00 8.84	11.50 8.10	66.78	5.00 3.93
1973	The Commercial Milling Co., Detroit, Mich.	Henkel's Course Feed Corn Meal.	Guaranteed Found	9.01 9.63	.65 .48	74.38 76.32	3.06 3.75
1974	L. Teresco & Co., Milwaukee, Wis.	Badger Brand Chicken Feed.	Guaranteed Found	10.00 9.93	5.00 3.79	66.27	2.55 2.33
1975	Everett-Augumbaugh & Co., Waseca, Minn.	E-A-CO Wheat Middlings and ground screenings	Guaranteed Found	15.00	10.00		3.00
1976	Everett-Augumbaugh & Co., Waseca, Minn.	E-A-CO Wheat Bran and ground screenings	Guaranteed Found	15.00	12.00		3.00
1977	Commercial Milling Co., Detroit, Mich.	Standard Wheat Middlings with ground screenings, etc.	Guaranteed Found	16.00 16.54	9.90 6.30	56.84	5.50 5.27
1978	Commercial Milling Co., Detroit, Mich.	Wheat Mixed Feed with ground screenings, etc.	Guaranteed Found	15.00 14.88	11.00 9.80	58.82	4.50 4.45
1979	Commercial Milling Co., Detroit, Mich.	Chico Brand Chick Feed	Guaranteed Found	10.00	5.00	60.00	2.80
1979	Sprague-Warner & Co., Chicago, Ill. (Quaker Oats Co., Chicago, Ill.)	Cero Brand Poultry Feed	Guaranteed Found	10.00 11.29	5.00 2.80	60.00 74.04	2.80 3.82
1980	Quaker Oats Co., Chicago, Ill. (Quaker Oats Co., Chicago, Ill.)	"Buckeye" Cottonseed Meal	Guaranteed Found	28.42 28.76	12.00 10.84	32.00 26.45	6.50 7.80

1982	John C. Martin & Co., Mineral Point, Wis.	Martin's Calf Feed.	Guaranteed Found.	28.00 28.35	6.00 4.55	40.00 46.93	6.00 8.12
1983	J. W. Barwell, Waaukegan, Ill.	Blatchford's Pig Meal.	Guaranteed Found.	18.00 20.13	7.00 7.45	55.07	5.00 4.86
1984	J. W. Barwell, Waaukegan, Ill.	Blatchford's "Mammoth Chick" Milk Mash.	Guaranteed Found.	20.00 21.53	7.50 4.73	48.12	4.00 4.41
1985	J. W. Barwell, Waaukegan, Ill.	Blatchford's "Fill the Basket" Egg Mash.	Guaranteed Found.	19.00 19.43	10.00 3.50	54.12	4.00 4.76
1986	Amendt Milling Co., Monroe, Mich.	AMCO Pigeon Feed.	Guaranteed Found.	10.00 13.86	5.00 4.00	53.00 66.20	2.50 4.01
1987	Amendt Milling Co., Monroe, Mich.	AMCO Scratch Grain.	Guaranteed Found.	9.54 12.07	4.30 2.80	63.51 69.39	3.40 2.79
1988	Amendt Milling Co., Monroe, Mich.	AMCO Chick Feed.	Guaranteed Found.	9.19 11.20	4.00 2.15	69.75 68.63	2.50 3.22
1989	Amendt Milling Co., Monroe, Mich.	AMCO No. 2 Chop Feed.	Guaranteed Found.	7.87 13.78	10.95 7.23	64.62 60.78	3.92 6.83
1990	Menominee River Sugar Co., Menominee, Mich.	Sugar Beet Molasses.	Guaranteed Found.	9.36		58.56	
1991	Huron Milling Co., Harbor Beach, Mich.	Jenks Mixed Feed.	Guaranteed Found.	12.18 14.88	5.85 8.10	59.42	4.60 4.30
1992	Huron Milling Co., Harbor Beach, Mich.	Jenks Gluten Feed.	Guaranteed Found.	22.00 22.49	8.00 6.80	57.34	3.00 4.83
1993	Sheffield-King Milling Co., Minneapolis, Minn.	"Whitehops" Middlings.	Guaranteed Found.	16.25 16.71	7.39 6.98	58.29	5.05 5.12
1994	Sheffield-King Milling Co., Minneapolis, Minn.	"Fairybow" Middlings.	Guaranteed Found.	17.15 17.85	8.96 9.13	56.55	5.01 4.97
1995	Pratt Food Co., Philadelphia, Pa.	Pratt's Baby Chick Food.	Guaranteed Found.	11.50 13.04	3.00 2.98	65.00 61.53	2.50 2.30
1996	Midland Lined Products Co., Minneapolis, Minn.	Midland Brand Pure Old Process Ground Lined Cake.	Guaranteed Found.	32.00 35.26	9.50 6.95	36.00 37.94	5.00 6.90
1997	Valley City Milling Co., Grand Rapids, Mich.	Farmers Favorite Coarse Corn Meal.	Guaranteed Found.	8.22 11.55	1.90 2.44	69.87 71.14	3.05 4.84
1998	Valley City Milling Co., Grand Rapids, Mich.	Farmers Favorite Cow Feed.	Guaranteed Found.	14.18 15.40	7.50 8.20	58.20 59.25	4.25 4.18
1999	The Ubiko Milling Co., Cincinnati, Ohio.	Union Grains, Ubiko, Biles Ready Dairy Ration.	Guaranteed Found.	24.00 23.89	9.00 8.96	50.00 46.69	7.00 6.95

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915).—Continued.

License No.	Manufacturer and address.	Brand.	Guaranteed Found	Protein. Per cent.	Crude fibre. Per cent.	Nitrogen—Free extract. Per cent.	Ether extract. Per cent.
2000	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.	Corn Flake Feed	Guaranteed Found	8.91 8.75	.42 .10	78.82 76.91	2.15 1.69
2001	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.	Dried Brewers Grains	Guaranteed Found	23.11 25.03	12.75 13.17	47.07 46.98	5.07 4.95
2002	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.	Broken Wheat Biscuit Feed	Guaranteed Found	10.15 13.04	2.60 2.17	76.43 74.69	1.07 1.14
2003	Star of the West Milling Co., Frankenthuth, Mich.	"Special Feed"	Guaranteed Found	8.57	8.97	67.27	3.65
2004	National Food Co., Fond du Lac, Wis.	No-Milk Calf Food	Guaranteed Found	17.25	6.00		
2005	A. L. Hibbard, Sturgis, Mich.	No. 1 Chop	Guaranteed Found	8.84 8.84	4.75 4.35	71.05 69.41	4.30 4.40
2006	Douglas & Co., Cedar Rapids, Iowa.	Douglas Corn Gluten Feed	Guaranteed Found	23.00 22.83	8.00 6.02	52.00 55.35	2.00 2.55
2007	The Memphis Cotton Hull & Fibre Co., Memphis, Tenn.	"Cyclone Feed Meal"	Guaranteed Found	20.00 21.44	23.00 8.85	38.00 53.63	3.00 4.29
2008	Northrup King & Co., Minneapolis, Minn.	Sterling Hen Feed	Guaranteed Found	11.67	4.61	65.06	3.42
2009	Northrup King & Co., Minneapolis, Minn.	Sterling Chick Feed	Guaranteed Found	12.25	4.51	61.87	2.70
2010	Northrup King & Co., Minneapolis, Minn.	Sterling Baby Chick Starter	Guaranteed Found	12.25	4.51	61.87	2.70
2011	Postum Cereal Co., Ltd., Battle Creek, Mich.	Pearl Meal	Guaranteed Found	7.00 7.44	1.00 0.60	75.00 78.68	.50 1.81
2012	Postum Cereal Co., Ltd., Battle Creek, Mich.	C X X Feed	Guaranteed Found	15.00 20.04	24.00 14.22	42.00 55.46	2.00 3.00
2013	Postum Cereal Co., Ltd., Battle Creek, Mich.	G. N. Feed	Guaranteed Found	9.00 11.73	2.60 1.25	63.00 77.83	1.00 1.64
2014	Postum Cereal Co., Ltd., Battle Creek, Mich.	Special Feed	Guaranteed Found	9.00 10.09	.75 .63	75.00 78.04	.80 1.00

2015	Postum Cereal Co., Ltd., Battle Creek, Mich.....	Barley Bran.....	Guaranteed Found.....	6.00 12.25	32.00 13.90	45.00 61.60	1.25 2.60
2016	Postum Cereal Co. Ltd., Battle Creek, Mich.....	Chicken Feed.....	Guaranteed Found.....	8.00 11.29	15.00 3.78	55.00 70.38	1.00 1.70
2017	Postum Cereal Co., Ltd., Battle Creek, Mich.....	Flaked Corn Feed.....	Guaranteed Found.....	8.00 8.23	5.00 1.20	70.00 80.62	1.00 2.70
2018	Postum Cereal Co., Ltd., Battle Creek, Mich.....	Cereal Feed.....	Guaranteed Found.....	11.00 12.95	18.00 14.33	53.00 59.52	1.75 2.50
2019	The Quaker Oats Co., Chicago, Ill.....	Map-All Corn Feed.....	Guaranteed Found.....	8.00 8.23	2.00 1.92	80.00 80.45	1.40 1.45
2020	The Quaker Oats Co., Chicago, Ill.....	Old Tavern Chick Feed.....	Guaranteed Found.....	10.00 10.07	5.00 2.25	80.00 83.44	2.50 2.72
2021	The Quaker Oats Co., Chicago, Ill.....	Old Tavern Scratch Feed.....	Guaranteed Found.....	10.00 10.24	5.00 2.16	80.00 83.47	2.50 3.01
2022	The Quaker Oats Co., Chicago, Ill.....	Schumacher Little Chick Feed.....	Guaranteed Found.....	10.00 10.85	5.00 2.40	80.00 71.13	2.50 3.57
2023	The Quaker Oats Co., Chicago, Ill.....	Schumacher Scratch Grains.....	Guaranteed Found.....	10.00 11.81	5.00 2.65	80.00 71.36	2.50 3.43
2024	The Quaker Oats Co., Chicago, Ill.....	Quaker Scratch Grains.....	Guaranteed Found.....	10.00	5.00	80.00	2.50
2025	The Quaker Oats Co., Chicago, Ill.....	Schumacher Calf Meal.....	Guaranteed Found.....	19.00 19.34	3.00 1.95	54.00 61.46	8.00 6.85
2026	The Quaker Oats Co., Chicago, Ill.....	Schumacher Stock Feed.....	Guaranteed Found.....	10.00 11.55	10.00 9.25	62.00 61.57	3.25 4.73
2027	The Quaker Oats Co., Chicago, Ill.....	Victor Feed.....	Guaranteed Found.....	8.00 8.31	12.00 10.10	62.00 64.26	3.00 5.53
2028	The Quaker Oats Co., Chicago, Ill.....	Quaker Chick Feed.....	Guaranteed Found.....	10.00	5.00	80.00	2.50
2029	The Quaker Oats Co., Chicago, Ill.....	American Hen Scratch Grains.....	Guaranteed Found.....	10.00 12.07	5.00 2.10	80.00 65.56	2.50 3.10
2030	Cancelled.....		Guaranteed Found.....				
2031	Cheboygan Flour Mill Co., Cheboygan, Mich.....	Corn Germ Meal.....	Guaranteed Found.....	10.59 12.95	2.30 1.15	64.26 68.13	5.85 5.20
2032	Cheboygan Flour Mill Co., Cheboygan, Mich.....	Highland Scratch Feed.....	Guaranteed Found.....	11.99 12.16	3.25 3.67	67.41 68.44	3.75 3.18

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915).—Continued.

License No.	Manufacturer and address.	Brand.	Protein. Per cent.	Crude fibre. Per cent.	Nitrogen—Free extract. Per cent.	Ether extract. Per cent.
2033	The West Branch Flour Mfg. Co., West Branch, Mich.	Street Car Feed.	Guaranteed Found.	11.99 12.25	2.40 3.63	4.03 3.78
2034	J. E. Bartlett Co., Jackson, Mich.	Bartlett's Malt Sugar Grains.	Guaranteed Found.	20.00 20.56	15.00 19.65	6.00 5.92
2035	J. E. Bartlett Co., Jackson, Mich.	Michigan "Farmer" Brand Cotton Seed Meal.	Guaranteed Found.	41.00 42.00	10.00 12.65	7.00 8.96
2036	McLaughlin Ward & Co., Jackson, Mich.	Crown Scratch Feed.	Guaranteed Found.	10.00 10.06	3.00 2.70	5.00 2.96
2037	Clinton Sugar Refining Co., Clinton, Iowa.	Clinton Corn Gluten Feed.	Guaranteed Found.	23.00 24.59	8.00 6.47	3.00 3.04
2038	Wm. Fluemer, Mt. Clemens, Mich.	Fluemer's Chicken Feed.	Guaranteed Found.	10.50 10.76	4.55 2.10	3.15 3.10
2039	American Linseed Co., N. Y. & Chicago.	Old Process Linseed Oil Meal.	Guaranteed Found.	34.00 34.04	9.00 7.07	6.00 8.12
2040	Grand Rapids Grain & Milling Co., Grand Rapids, Mich.	Purity Scratch Feed.	Guaranteed Found.	9.36 12.77	4.82 4.27	3.62 4.17
2041	Chapin & Co., Hammond, Ind.	Unicorn Dairy Ration.	Guaranteed Found.	24.00 28.00	10.00 10.75	5.50 6.54
2042	Chapin & Co., Hammond, Ind.	Ajax Flakes.	Guaranteed Found.	30.00 30.01	14.00 10.64	11.00 11.50
2043	Hankey Milling Co., Inc., Petoskey, Mich.	Bran with Mill Run of screenings.	Guaranteed Found.	13.56	9.57	3.75
2044	Hankey Milling Co., Inc., Petoskey, Mich.	Feed Meal.	Guaranteed Found.	9.71	3.37	5.32
2045	American Milling Co., Peoria, Ill.	Sucrose Dairy Feed.	Guaranteed Found.	16.50 18.90	13.00 11.25	3.50 5.07
2046	American Milling Co., Peoria, Ill.	Sucrose Scratch Feed.	Guaranteed Found.	10.00 10.33	5.00 2.40	2.50 2.03
2047	American Milling Co., Peoria, Ill.	Sucrose Scratch Feed with 5 per cent grit.	Guaranteed Found.	10.00 10.68	5.00 2.53	2.50 2.97

2048	American Milling Co., Peoria, Ill.	Chick Chick Scratch Feed	Guaranteed Found	10.00 10.59	5.00 2.75	65.00 69.84	2.50 2.68
2049	American Milling Co., Peoria, Ill.	Chick Chick Scratch Feed with 5 per cent grit	Guaranteed Found	10.00 11.81	5.00 2.90	65.00 65.92	2.50 2.57
2050	American Milling Co., Peoria, Ill.	Tip Top Scratch Feed	Guaranteed Found	10.00 11.37	4.50 3.10	70.00 69.70	2.50 2.68
2051	American Milling Co., Peoria, Ill.	Tip Top Scratch Feed with 5 per cent grit	Guaranteed Found	10.00 10.59	4.50 3.80	70.00 71.48	2.50 2.47
2052	American Milling Co., Peoria, Ill.	Tip Top Chick Feed	Guaranteed Found	10.00 10.59	5.00 2.88	65.00 70.10	2.50 2.88
2053	American Milling Co., Peoria, Ill.	Tip Top Chick Feed with 5 per cent grit	Guaranteed Found	10.00 10.24	5.00 3.60	65.00 59.25	2.50 2.98
2054	American Milling Co., Peoria, Ill.	Supreme Chick Feed	Guaranteed Found	10.00 10.24	5.00 3.55	65.00 74.94	2.50 3.07
2055	American Milling Co., Peoria, Ill.	Supreme Chick Feed with 5 per cent grit	Guaranteed Found	10.00 9.98	5.00 2.70	65.00 59.77	2.50 2.92
2056	The Larowe Milling Co., Detroit, Mich.	Larow Feed	Guaranteed Found	19.00 19.95	14.00 12.13	50.00 51.12	3.00 3.75
2057	M. C. Peters Mill Co., Omaha, Neb.	Peters' June Pasture Dairy Meal	Guaranteed Found	10.00 12.09	26.00 21.02	44.00 46.84	.50 .98
2058	Roach & Seiber Co., Houghton, Mich.	Roseco Brand Scratch Feed	Guaranteed Found	10.00 10.15	5.00 1.25	66.11	2.50 3.25
2059	Bad Axe Grain Co., Bad Axe, Mich.	Egg Brand Poultry Feed	Guaranteed Found	10.94 11.29	2.86 2.60	70.73 72.28	3.04 3.33
2060	Bad Axe Grain Co., Bad Axe, Mich.	Axe Brand Ground Feed	Guaranteed Found	12.42 12.43	7.13 6.60	63.63 67.08	3.14 3.06
2061	Spratt's Patent (America) Limited, Newark, N. J.	Spratt's Poultry Food No. 3	Guaranteed Found	20.00 21.61	2.00 .35	60.00 64.40	2.50 2.46
2062	Spratt's Patent (America) Limited, Newark, N. J.	Ground Meat	Guaranteed Found	43.00 61.34	2.00	70	10.00 10.02
2063	Darrah Milling Co., Big Rapids, Mich.	Unbolted Corn Meal	Guaranteed Found	11.38 10.59	4.10 1.80	63.37 71.05	4.65 4.06
2064	Humphreys-Godwin Co., Memphis, Tenn.	Dixie Brand Cottonseed Meal	Guaranteed Found	38.62 40.86	12.00 10.83	24.00 28.14	6.00 7.35
2065	Joe. Wellman's Sons, Port Huron, Mich.	Mixed Chicken Feed	Guaranteed Found	9.01	3.30	70.88	3.40

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915).—Continued.

License No.	Manufacturer and address.	Brand.	Protein. Per cent.	Crude fibre. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
2066	Portland Milling Co., Portland, Mich.	Champion Mixed Feed with ground screenings not exceeding mill run.	13.56 Guaranteed Found.	8.47 7.78	59.54 59.71	3.58 3.72
2067	Portland Milling Co., Portland, Mich.	Puritas Corn & Oat Feed.	10.41 Guaranteed Found.	6.38 6.06	68.43 67.96	4.23 4.00
2068	Thunder Bay Milling Co., Alpena, Mich.	Bradford's Coarse Corn Meal.	7.87 Guaranteed Found.	1.85	75.70	2.70
2069	C. C. Wright, Orosco, Mich.	Occident Chick Feed.	10.15 Guaranteed Found.	2.90 3.10	69.87 69.60	2.95 2.75
2070	C. C. Wright, Orosco, Mich.	Wright's Mixture (Scratch Feed).	10.41 Guaranteed Found.	2.75	70.24	2.75
2071	American Linseed Co., Chicago, Ill.	Cleveland Linseed Oil Meal.	38.00 Guaranteed Found.	9.00 8.43	42.00 40.09	2.00 2.72
2072	Dewey Bros. Co., Blanchester, Ohio.	Eagle Three D Grains.	30.00 Guaranteed Found.	13.00 12.83	30.00 30.57	10.00 14.60
2073	Hunt & Begley Linseed Co., Chicago, Ill.	H & B Ground Linseed Cake.	34.00 Guaranteed Found.	9.00 7.48	42.00 35.77	8.00 10.20
2074	W. C. Northern, Little Rock, Ark.	Bee Brand Cotton Seed Meal.	41.00 Guaranteed Found.	10.00 9.00	6.50 26.22	6.50 7.63
2075	W. C. Northern, Little Rock, Ark.	Poultry Feed.	10.41 Guaranteed Found.	2.15 2.83	62.29 68.12	2.80 3.64
2076	Van Eyck Weurding Milling Co., Holland, Mich.	Purina Dairy Feed.	19.00 Guaranteed Found.	15.00 16.95	45.00 44.46	3.50 3.40
2077	Purina Mills, Branch Ralston Purina Co., St. Louis, Mo.	Purina Feed with Molasses.	9.30 Guaranteed Found.	11.70 12.00	59.20 59.33	1.70 2.76
2078	F. Becker, Grand Rapids, Mich.	Feed Corn Meal.	7.79 Guaranteed Found.	1.55 1.40	67.41 77.09	3.75 3.25
2079	Purina Mills, Branch Ralston Purina Co., St. Louis, Mo.	Purina Chick Feed.	11.00 Guaranteed Found.	4.00 1.83	65.00 72.89	3.00 3.18
2080	Purina Mills, Branch Ralston Purina Co., St. Louis, Mo.	Purina Scratch Feed.	11.00 Guaranteed Found.	4.00 2.55	65.00 71.15	3.00 2.97

2081	Purina Mills, Branch Ralston Purina Co., St. Louis, Mo.	Purina Chicken Chowder with Charcoal	Guaranteed Found.	17.00	9.00	56.00	3.00
				18.90	8.10	54.12	4.03
2082	Darling & Co., Chicago, Ill.	Darling's High Protein Meat Scraps	Guaranteed Found.	55.00	3.00		.50
				57.05			8.29
2083	Darling & Co., Chicago, Ill.	Darling's Standard Meat Scraps	Guaranteed Found.	45.00	3.00		.50
				49.61			5.76
2084	Darling & Co., Chicago, Ill.	Darling's Meat Crisps	Guaranteed Found.	75.00	3.00		.50
				79.80			6.45
2085	Darling & Co., Chicago, Ill.	Darling's Granulated Bone	Guaranteed Found.	20.00	3.00		.50
				26.25			4.59
2086	Darling & Co., Chicago, Ill.	Darling's 60 per cent Protein Digestor Tailage	Guaranteed Found.	60.00	3.00		.50
				60.64			2.40
2087	Armour Fertilizer Works, Chicago, Ill.	Armours Granulated Bone	Guaranteed Found.	23.00			2.00
				25.46			
2088	Armour Fertilizer Works, Chicago, Ill.	Meat Meal	Guaranteed Found.	67.38	2.00		10.00
2089	Armour Fertilizer Works, Chicago, Ill.	Blood Meal	Guaranteed Found.	80.00	2.00		
				81.38			
2090	Amendt Milling Co., Monroe, Mich.	AMCO Alfalfa Meal	Guaranteed Found.	12.00	35.00	38.30	.50
				13.83	29.05		1.57
2091	Dwight M. Baldwin, Jr., Minneapolis, Minn. (Baldwin Flour Mills)	Baldwin Flour Mills Wheat Bran with not exceeding mill run of ground screenings	Guaranteed Found.	14.50	12.00	53.91	4.00
				14.96	10.42		5.00
2092	Dwight M. Baldwin, Jr., Minneapolis, Minn. (Baldwin Flour Mills)	Baldwin Flour Mills Wheat Shorts with not exceeding mill run of ground screenings	Guaranteed Found.	15.00	11.00	55.95	5.00
				16.71	6.15		6.00
2093	Dwight M. Baldwin, Jr., Minneapolis, Minn. (Baldwin Flour Mills)	Baldwin Flour Mills Wheat Flour Middlings with not exceeding mill run of ground screenings	Guaranteed Found.	16.50	7.00	59.53	5.00
				16.71	5.07		5.36
2094	Continental Cereal Co., Peoria, Ill.	Continental Gluten Feed	Guaranteed Found.	29.00	10.50	40.00	10.50
				28.89	7.05	47.59	7.53
2095	Michigan Cereal Co., Port Huron, Mich.	Pea Bran	Guaranteed Found.	20.91	20.85	45.12	2.02
2096	J. E. Bartlett Co., Jackson, Mich.	Creamo Brand Cotton Seed Feed Meal	Guaranteed Found.	20.00	25.00		4.00
				20.30	36.60	25.28	4.45
2097	Model Milling Co., Port Huron, Mich.	Model Scratch Feed	Guaranteed Found.	10.50	2.30	71.10	3.45
				10.41	1.70	74.84	3.45
2098	Model Milling Co., Port Huron, Mich.	Model Egg Mash	Guaranteed Found.	13.21	5.25	63.34	4.70
				18.29	5.14	59.99	4.34

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915).—Continued.

Labeling No.	Manufacturer and address.	Brand.	Protein— Per cent.	Crude fibre— Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
2009	B. B. Hyde, Port Huron, Mich.	Ideal Poultry Feed	10.15 10.06	2.25 2.40	71.38 72.98	2.87 3.53
2100	Cancelled					
2101	J. E. Bartlett Co., Jackson, Mich.	Michigan Farmer Brand of Tankage	33.44			13.54
2102	Frank J. Stuart, Pontiac, Mich.	Stuart's Chicken Feed	8.66 9.71	3.32 1.95	70.01	2.85 2.89
2103	C. E. DePuy Co., Pontiac, Mich.	Peerless Scratch Feed	9.89 11.20	2.12 2.85	69.90 70.47	2.62 2.86
2104	C. E. DePuy Co., Pontiac, Mich.	Victor Chick Feed	9.71 11.20	2.69 2.35	74.12 67.02	2.40 2.85
2105	McMorran Milling Co., Port Huron, Mich.	Protean Dairy Feed	18.99 24.49	3.70 9.15	62.76 49.55	3.00 3.11
2106	W. J. Byrnes & Co., Chicago, Ill.	Dairy Chick Feed	10.00 12.25	5.00 2.40	70.61	2.50 2.99
2107	W. J. Byrnes & Co., Chicago, Ill.	Royal Poultry Feed	10.00	5.00		3.00
2108	Lichtenberg & Son, Detroit, Mich.	Farman Horse Feed	13.95 11.28	7.09 7.15	56.93 64.52	3.45 3.75
2109	Lichtenberg & Son, Detroit, Mich.	Farman Summer Horse Feed	14.00 10.40	7.46 6.97	57.41 63.39	3.63 3.83
2110	Lichtenberg & Son, Detroit, Mich.	Farman Dairy Feed	19.35 22.49	8.38 8.90	49.10 54.33	2.43 4.50
2111	Lichtenberg & Son, Detroit, Mich.	Lichtenberg's Chop Feed	11.11 10.77	3.65 3.95	66.51 72.50	3.28 4.43
2112	J. J. Bedenoth Co., Chicago, Ill.	Cer-lay	9.50 10.41	5.00 3.72	65.50 63.79	2.80 2.83
2113	Edwards & Loomis Co., Chicago, Ill.	Red Comb Alfalfa Meal	13.50 17.24	30.00 29.28		1.00 2.14

2114	David Stott Flour Mills, Inc., Detroit, Mich.	Winner Chop Feed	Guaranteed Found	9.00 10.76	10.00 7.62	70.00 63.74	5.00 6.03
2115	Hottelst & Co., Milwaukee, Wis.	Holtstein Malt Brewers Grains	Guaranteed Found	25.00 27.13	14.00 16.15	41.10	5.00 5.82
2116	American Milling Co., Peoria, Ill.	AMCO Alfalfa Meal	Guaranteed Found	13.00 15.05	30.00 31.50	37.11	2.00 1.81
2117	American Milling Co., Peoria, Ill.	AMCO Process Old Linseed Meal	Guaranteed Found	80.00 32.90	10.00 8.06	30.00 38.48	5.00 6.00
2118	American Milling Co., Peoria, Ill.	Sureness Horse & Mule Feed	Guaranteed Found	9.00 10.76	13.00 13.34	50.00 60.09	2.50 2.51
2119	Valley City Milling Co., Grand Rapids, Mich.	Farmers Favorite Bran	Guaranteed Found	14.65 15.93	10.40 7.96	54.67 57.19	2.81 4.70
2120	Illinois Feed Mills, Branch Ralston Purina Co., St. Louis, Mo.	Feed Well Scratch Feed with grit	Guaranteed Found	10.00 12.34	6.00 3.27	60.00 65.24	3.00 3.72
2121	Chas. A. Krause Milling Co., Milwaukee, Wis.	Choice Alfalfa Meal	Guaranteed Found	12.00 13.48	35.00 30.75	39.03	1.00 2.04
2122	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Evergreen Feed	Guaranteed Found	12.00 12.13	30.00 16.90	39.20	1.00 1.16
2123	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Fancy Middlings	Guaranteed Found	12.00 15.84	7.00 3.32	60.23	4.50 6.61
2124	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Fancy Mixed Feed	Guaranteed Found	12.50 12.34	9.00 8.15	64.30	4.00 6.28
2125	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Hominy Feed	Guaranteed Found	10.00 12.07	6.00 4.23	65.81	5.00 8.07
2126	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Stock Feed	Guaranteed Found	10.00 10.94	9.00 9.40	62.24	4.50 6.10
2127	The Albert Dickinson Co., Chicago, Ill.	Pine Tree Scratch Feed	Guaranteed Found	10.00 10.50	5.00 2.90	60.00 66.48	2.50 2.79
2128	The Albert Dickinson Co., Chicago, Ill.	Globe Scratch Feed	Guaranteed Found	10.00 11.73	5.00 3.45	60.00 67.99	2.50 2.88
2129	The Albert Dickinson Co., Chicago, Ill.	Globe Developing Feed	Guaranteed Found	10.00 11.20	5.00 2.50	60.00 71.84	2.50 2.51
2130	The Albert Dickinson Co., Chicago, Ill.	Crescent Chick Feed	Guaranteed Found	10.00 10.41	5.00 1.33	60.00 70.53	2.50 3.34

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915).—Continued.

License No.	Manufacturer and address.	Brand.	Guaranteed Found.	Protein. Per cent.	Crude fibre. Per cent.	Nitrogen—Free extract. Per cent.	Ether extract. Per cent.
2131	The Albert Dickinson Co., Chicago, Ill.	Globe Egg Mash.	Guaranteed Found.	16.00 15.84	10.00 4.90	50.00 62.06	3.00 3.80
2132	The Albert Dickinson Co., Chicago, Ill.	White Cross Scratch Feed.	Guaranteed Found.	10.00 11.72	5.00 2.25	60.00 72.63	2.50 3.00
2133	The Albert Dickinson Co., Chicago, Ill.	White Cross Chick Feed.	Guaranteed Found.	10.00 10.06	5.00 1.45	60.00 70.85	2.50 2.69
2134	The Albert Dickinson Co., Chicago, Ill.	White Cross Stock Feed.	Guaranteed Found.	10.00 11.03	10.00 3.26	60.00 72.14	3.50 4.00
2135	The Albert Dickinson Co., Chicago, Ill.	Globe Chick Feed.	Guaranteed Found.	10.00 10.32	5.00 1.70	60.00 69.38	2.50 2.25
2136	The Albert Dickinson Co., Chicago, Ill.	White Cross Horse Feed.	Guaranteed Found.	10.00	8.00	60.00	2.50
2137	The Albert Dickinson Co., Chicago, Ill.	Alfalfa Meal.	Guaranteed Found.	12.00	35.00	35.00	1.00
2138	The Albert Dickinson Co., Chicago, Ill.	Queen Poultry Mash.	Guaranteed Found.	11.00 11.64	10.00 7.60	60.00 64.76	2.50 5.25
2139	The Albert Dickinson Co., Chicago, Ill.	King Pigeon Feed.	Guaranteed Found.	10.00 11.11	5.00 2.65	60.00 72.39	2.50 4.10
2140	Hubbard Milling Co., Mankato, Minn.	Flaky Bran.	Guaranteed Found.	15.00 13.40	11.50 11.15	53.95	4.50
2141	Wilbur Stock Food Co., Milwaukee, Wis.	Wilbur Poultry Tonic.	Guaranteed Found.	17.00 16.63	6.00 6.53	52.23	3.00 4.73
2142	New Prague Flouring Mill Co., New Prague, Minn.	"Seal of Minnesota" Bran.	Guaranteed Found.	14.60 16.45	11.00 7.05	44.00 58.38	4.75 4.45
2143	Purina Mills, Branch Ralston Purina Co., St. Louis, Mo.	Purina Sweet Feed.	Guaranteed Found.	10.30 14.13	18.00 17.36	48.00 50.70	1.20 2.22
2144	J. J. Badenoeh Co., Chicago, Ill.	Car-lay Fine Chick Feed.	Guaranteed Found.	10.00 10.41	3.20 10.41	67.70 69.50	2.50 3.18
2145	McMoran Milling Co., Port Huron, Mich.	Crest Brand Poultry Feed.	Guaranteed Found.	10.32 11.20	3.30 3.80	67.04 69.97	2.55 3.68

2146	John B. A. Kern & Sons, Milwaukee, Wis.	Eagle Bran with screenings not exceeding mill run.	Guaranteed Found.	15.00 15.75	10.00 10.73	50.00 54.83	3.25 3.91
2147	John B. A. Kern & Sons, Milwaukee, Wis.	Eagle Standard Middlings with screenings not exceeding mill run.	Guaranteed Found.	16.00 17.06	7.60 7.90	50.00 56.07	5.15 5.02
2148	C. W. Chesney Co., Eau Claire, Wis.	Chicken feed.	Guaranteed Found.	12.08	2.12	69.79	3.16
2149	McMorran Milling Co., Port Huron, Mich.	Crest Brand Chop Feed.	Guaranteed Found.	8.86 9.88	16.70 8.30	60.01 67.68	2.71 3.74
2150	M. G. Rankin & Co., Milwaukee, Wis.	Bran with ground screenings not exceeding mill run.	Guaranteed Found.	14.50 16.45	9.50 9.48	52.00 55.67	4.00 4.40
2151	Bernhard Stern & Sons, Inc., Milwaukee, Wis.	Atlas Wheat Flour Middlings with ground screenings not exceeding mill run.	Guaranteed Found.	16.00 17.41	8.00 6.72	58.57	4.50 5.25
2152	Bernhard Stern & Sons, Inc., Milwaukee, Wis.	Atlas Wheat Bran with ground screenings not exceeding mill run.	Guaranteed Found.	15.00 17.50	12.00 7.63	58.54	3.50 4.25
2153	Cronenwett & Sons, Detroit, Mich.	Manhattan Stock Food.	Guaranteed Found.	10.68 11.11	2.83 2.40	64.36 70.39	4.30 3.70
2154	Cronenwett & Sons, Detroit, Mich.	Manhattan Poultry Food.	Guaranteed Found.	5.29 12.07	5.39 5.65	70.62 63.38	4.05 3.95
2155	Minnesota Lined Oil Co., Minneapolis, Minn.	Ground Oil Cake.	Guaranteed Found.	34.00 36.75	11.00 6.35	37.86	5.00 6.30
2156	Peinacular Milling Co., Flint, Mich.	Wheat Bran with ground screenings.	Guaranteed Found.	15.00 14.88	10.00 11.05	50.00 55.76	3.50 3.51
2157	Chicago Heights Oil Mfg. Co., Chicago, Ill.	"Heights" Corn Oil Cake Meal.	Guaranteed Found.	16.00 19.99	6.00 2.05	56.66	5.00 7.37
2158	Chicago Heights Oil Mfg. Co., Chicago, Ill.	Prize Cooked Hog Feed.	Guaranteed Found.	15.00 19.25	15.00 8.20	51.05	7.00 8.35
2159	J. J. Badenoch Co., Chicago, Ill.	Sunflower Poultry Feed.	Guaranteed Found.	10.00 11.02	5.00 2.75	57.20 73.78	2.80 3.25
2160	J. J. Badenoch Co., Chicago, Ill.	Sunflower Fine Chick Feed.	Guaranteed Found.	10.00	5.00	57.20	2.50
2161	J. J. Badenoch Co., Chicago, Ill.	Sunflower Pigeon Feed.	Guaranteed Found.	10.00 14.79	5.00 2.67	65.00 67.43	2.50 4.53
2162	J. J. Badenoch Co., Chicago, Ill.	Sunflower Developing Feed.	Guaranteed Found.	10.00 10.68	5.00 2.40	57.20 70.90	2.50 2.80
2163	J. J. Badenoch Co., Chicago, Ill.	Egday Meat Cereal Mash.	Guaranteed Found.	15.00 17.59	8.00 6.45	54.00 60.71	4.00 5.10

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915.)—Continued.

License No.	Manufacturer and address.	Brand.	Guaranteed Found.	Protein. Per cent.	Crude fibre. Per cent.	Nitrogen—Free extract. Per cent.	Ether extract. Per cent.
2164	Thunder Bay Milling Co., Alpena, Mich.	Thunder Bay Scratch Feed.	Guaranteed Found.	10.85 11.90	3.55 3.75	67.35 68.03	3.05 2.50
2165	Wm. Goodrich & Co., Milwaukee, Wis.	Old Process Ground Linseed Cake.	Guaranteed Found.	32.00 34.12	10.00 2.10	32.00 41.15	5.00 10.38
2166	Scheuren & Mok, Detroit, Mich.	Chop Feed.	Guaranteed Found.	7.70 7.96	10.90 3.28	65.17 69.09	3.18 11.07
2167	Scheuren & Mok, Detroit, Mich.	Cocksoomb Chick Feed.	Guaranteed Found.	11.11	4.90	67.14	3.10
2168	Scheuren & Mok, Detroit, Mich.	Eagle Mixed Feed.	Guaranteed Found.	10.15 10.87	4.45 3.10	67.15 74.59	3.80 3.32
2169	King Milling Co., Lowell, Mich.	Kimco Bran.	Guaranteed Found.	13.56 14.79	8.45 9.60	55.69 56.66	4.00 3.95
2170	International Stock Food Co., Minneapolis, Minn.	International Grofist Calf Meal.	Guaranteed Found.	25.00 26.95	10.00 7.40	46.00 44.75	5.00 7.35
2171	John B. A. Kern & Sons, Milwaukee, Wis.	Eagle Red Dog.	Guaranteed Found.	18.00 17.94	3.00 2.08	58.50 64.63	5.00 4.86
2172	Sheffield-King Milling Co., Minneapolis, Minn.	Fancy Brodfake Wheat Bran and ground wheat screenings.	Guaranteed Found.	14.50 14.80	12.50 12.28	55.58	4.00 3.91
2173	M. C. Peters Mill Co., Omaha, Neb.	Alfalfa Queen Mills Dairy Feed.	Guaranteed Found.	17.00 19.31	12.00 10.72	50.00 48.87	3.00 3.29
2174	The Sherwin-Williams Co., Cleveland, Ohio.	Sherwin-Williams Linseed Oil Meal.	Guaranteed Found.	33.00	8.00		6.00
2175	Union Brokerage & Commission Co., Vincennes, Ind.	"Durjan" Cotton Seed Meal.	Guaranteed Found.	41.00 41.66	10.00 9.10	25.85	9.64
2176	Feeders Supply Co., Kansas City, Mo.	"Equity Brand" Cottonseed Meal.	Guaranteed Found.	41.00	10.50	6.50	6.00
2177	Bad Axe Grain Co., Bad Axe, Mich.	Molasses Feed.	Guaranteed Found.	10.96 8.75	19.27 17.23	50.76 50.48	2.89 2.94
2178	Wyles & Co., Grand Rapids, Mich.	Y. X. Choice Cottonseed Meal.	Guaranteed Found.	41.00 41.74	10.00 0.75	20.20	7.00 6.92

2179	Wykes & Co., Grand Rapids, Mich.....	Y. X. Corn Meal.....	Guaranteed Found.....	8.31 9.54	2.05 1.79	72.75 74.77	4.32 3.86
2180	Watson Higgins Milling Co., Grand Rapids, Mich.....	Fine Corn Meal.....	Guaranteed Found.....	7.61 8.75	2.20 1.96	74.80 75.24	3.15 4.15
2181	Watson Higgins Milling Co., Grand Rapids, Mich.....	Perfection Scratch Feed.....	Guaranteed Found.....	10.41 11.02	3.42 2.96	73.24 70.33	2.40 3.45
2182	Watson Higgins Milling Co., Grand Rapids, Mich.....	Perfection Chick Feed.....	Guaranteed Found.....	9.80 9.89	1.90 2.32	69.36 66.83	2.64 2.58
2183	Wm. Boardman, Benton Harbor, Mich.....	Success Chicken Feed.....	Guaranteed Found.....	10.41 10.32	2.45 2.47	70.36 71.56	2.75 2.75
2184	Texas Cakes & Linter Co., Dallas, Texas.....	Texas Brand Cotton Seed Meal.....	Guaranteed Found.....	41.00 43.48	10.00 6.00	6.50 25.16	8.08
2185	Buckeye Cotton Oil Co., Cincinnati, Ohio.....	41 per cent Buckeye Cotton Seed Meal.....	Guaranteed Found.....	41.00 42.87	10.00 9.65	32.00 27.72	6.50 7.16
2186	Standard Grocer & Milling Co., Holland, Mich.....	Standard Scratch Feed.....	Guaranteed Found.....	10.24 10.15	3.15 2.93	69.26 70.91	2.76 3.44
2187	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.....	Invisible Dairy Feed.....	Guaranteed Found.....	17.24 15.40	6.11 7.23	61.07 60.62	4.71 4.70
2188	Stockbridge Elevator Co., Jackson, Mich.....	Improved German Calf Meal.....	Guaranteed Found.....	23.00 24.50	6.00 3.27	56.03	4.00 3.95
2189	Union Seed & Fertilizer Co., New York.....	"Yellow Tag" Choice Cotton Seed Meal.....	Guaranteed Found.....	41.18 43.93	10.00 7.03	6.68 28.15	8.00 8.32
2190	The Union Seed & Fertilizer Co., New York.....	"American Red Tag" Cotton Seed Meal.....	Guaranteed Found.....	38.55 38.33	11.50 10.58	6.17 26.76	7.00 7.08
2191	Wash-Co Alfalfa Mixed Feed & Milling Co., Ft. Calhoun, Neb.....	Alfagreen.....	Guaranteed Found.....	10.00 12.11	25.00 15.11	40.00 45.64	.50 .55
2192	J. E. Bartlett Co., Jackson, Mich.....	Jersey Brand Cotton Seed Meal.....	Guaranteed Found.....	38.50 35.00	12.00 15.13	28.00 28.06	6.00 6.54
2193	J. E. Bartlett Co., Jackson, Mich.....	Farmer Brand Gluten.....	Guaranteed Found.....	26.00 20.91	13.00 12.75	40.00 49.87	7.00 7.50
2194	Star & Crescent Milling Co., Chicago, Ill.....	Star & Crescent Bran.....	Guaranteed Found.....	15.00 16.89	10.00 10.35	53.81	4.00 4.55
2195	Star & Crescent Milling Co., Chicago, Ill.....	Star Middlings.....	Guaranteed Found.....	15.00 16.28	8.00 8.30	56.86	4.00 3.92
2196	Arcada Farms Milling Co., Rondout, Ill.....	Ready Dairy Feed.....	Guaranteed Found.....	16.00 16.04	15.00 12.40	53.25	3.50 3.55

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1915.)—Continued.

Locum No.	Manufacturer and address.	Brand.	Guaranteed Found.	Protein, Per cent.	Crude fibre, Per cent.	Nitrogen— Free extract, Per cent.	Ether extract, Per cent.
2197	David Stott Flour Mills Inc., Detroit, Mich.	Stott's Spring Wheat Bran and wheat screenings.	Guaranteed. Found.	16.00 15.98	10.00 9.98	70.00 53.59	4.00 4.57
2198	Big Diamond Mills Co., Minneapolis, Minn.	Big Diamond Bran with ground screenings not exceeding mill run.	Guaranteed. Found.	14.00 14.79	11.07 12.38	51.34	4.00 4.20
2199	Big Diamond Mills Co., Minneapolis, Minn.	Big Diamond Standard Middlings with ground screenings not exceeding mill run.	Guaranteed. Found.	14.67 18.90	9.35 8.75	52.83	4.21 6.25
2200	Beck Cereal Co., Detroit, Mich.	Royal Chop Feed.	Guaranteed. Found.	8.31 10.33	5.10 7.75	64.23	5.81 5.62
2201	Wash-Co Alfalfa Mixed Feed & Milling Co., Ft. Calhoun, Neb.	Butlers Special Horse Feed.	Guaranteed. Found.	10.00 10.43	12.00 12.38	58.00 57.20	2.00 2.33
2202	Caughy-Swift Co., Detroit, Mich.	C C C Chick Feed.	Guaranteed. Found.	13.74	3.21	63.32	3.83
2203	International Sugar Feed Co., Minneapolis, Minn.	International Special Dairy Feed.	Guaranteed. Found.	15.00 16.80	12.00 10.58	38.00 49.54	4.50 4.58
2204	International Sugar Feed Co., Minneapolis, Minn.	International Climax Feed.	Guaranteed. Found.	12.50 12.78	12.00 11.96	43.00 53.24	4.50 4.90
2205	J. W. Barnwell, Waitegan, Ill.	Blatchford's Calf Meal.	Guaranteed. Found.	24.00 26.69	6.75 4.86	49.55	5.95
2206	R. D. Eaton Grain & Feed Co., Norwich, N. Y.	Eaton's Perfection Mash Mixture for Laying Fowls.	Guaranteed. Found.	17.00 17.33	8.00 10.92	39.71	4.30
2207	L. B. Lovitt & Co., Memphis, Tenn.	Lovitt Brand Cotton Seed Meal.	Guaranteed. Found.	41.00	9.00	25.00	7.50
2208	Argo Milling Co., Charlevoix, Mich.	Bolbed Corn Meal.	Guaranteed. Found.	10.41	3.40	69.44	5.55
2209	Meridian Grain & Elevator Co., Meridian, Miss.	Tip Top Choice Cotton Seed Meal.	Guaranteed. Found.	41.00 43.06	10.00 4.40	31.70	6.50 7.80
2210	American Milling Co., Peoria, Ill.	Moham's Fat Maker.	Guaranteed. Found.	8.00 9.90	16.00 11.16	50.00 53.81	2.49
2211	A. Hyde & Son, Grand Rapids, Mich.	Coarse Corn Meal.	Guaranteed. Found.	8.75 8.93	1.95 1.68	73.23 76.64	2.90 2.86

2212	Valley City Milling Co., Grand Rapids, Mich.	Farmers Favorite Middlings.....	Guaranteed Found.....	15.00 16.89	5.80 5.28	61.49	4.20 4.42
2213	King Milling Co., Lowell, Mich.	Kimco Middlings.....	Guaranteed Found.....	14.61 15.05	6.17 5.36	58.63 63.29	3.79 4.25
2214	Spencer-Kalleg & Sons, Inc., New York	Pure Old Process Oil Meal made from Lin- seed Cake.....	Guaranteed Found.....	33.00 34.39	10.00 7.72	38.87	5.00 6.07
2215	Tennessee Fibre Co., Memphis, Tenn.	Creamo Brand Cotton Seed Feed.....	Guaranteed Found.....	20.00 21.96	25.00 15.50	35.00 45.73	4.00 4.04
2216	Hannah & Lay Co., Traverse City, Mich.	Fine Feed.....	Guaranteed Found.....	11.45	5.33	70.68	4.82
2217	Archer-Daniels Linseed Co., Minneapolis, Minn.	Old Process Ground Linseed Cake.....	Guaranteed Found.....	32.00 32.73	10.00 8.40	39.33	6.00 7.15
2218	Cancelled.....	.....	Guaranteed Found.....	.....	.....	.....	.....
2219	Cancelled.....	.....	Guaranteed Found.....	.....	.....	.....	.....
2220	Imperial Cotto Milling Co., Peoria, Ill.	Imperial Cotto Brand Choice Cotton Seed Meal.....	Guaranteed Found.....	41.00 43.40	9.00 7.25	29.75	6.50 7.90
2221	Duluth-Superior Milling Co., Duluth, Minn.	Ground Feed-Corn & Oats.....	Guaranteed Found.....	9.75	7.00	.....	4.00
2222	Quaker Oats Co., Chicago, Ill.	Quaker Dairy Feed with Molasses.....	Guaranteed Found.....	16.00 19.15	14.50 13.34	50.00 50.09	4.00 4.49
2223	Quaker Oats Co., Chicago, Ill.	Blue Ribbon Dairy Feed.....	Guaranteed Found.....	25.00 25.03	12.00 11.64	48.00 45.77	3.50 4.40
2224	Security Remedy Co., Minneapolis, Minn.	Security Calf Food Compound.....	Guaranteed Found.....	9.80 13.56	6.00 4.54	63.03	4.50 4.72
2225	K & E Neumond, St. Louis, Mo.	"Goldnes Kalb" Brewers Dried Grains.....	Guaranteed Found.....	24.00	13.00	.....	6.00

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surround- ings.
Allegan County, March:					
Salem Creamery	Burnips Corners	Jesse Norgaard		84,778	Good ..
Dorr Creamery	Dorr	August Smith		74,000	Good ..
Martin Dairy Prod. Cry	Martin	Martin Dy. Prod. Co.		112,920	Good ..
Hopkins Cry. Co.	Hopkins	L. E. Seelye, Mgr.		249,687	Good ..
Hilliard's Creamery	Hilliards	Albert Rocks		104,000	Fair ..
Kellogg Butter Co.	Kellogg	H. H. Blaine		49,000	Good ..
Overton Creamery Co.	Allegan	Overton Cry. Co.	1,487,684	295,494	Good ..
Calhoun County, March:					
Maple City Creamery	Albion	D. S. Birdsall		38,000	Good ..
Marshall Creamery Co.	Marshall	Marshall Cry. Co.		104,506	Good ..
Marshall Cream Station	Marshall	Jackson Cry. Co.			Good ..
Eaton County, March:					
Mulliken Creamery Ass'n.	Mulliken	Mulliken Co-Op. Cry. Ass'n		128,666	Good ..
Mulliken Cream Station	Mulliken	Spencer & Howe C. Co.			Good ..
Towars Cream Station	Charlotte	Towars W. Co. Cry			Good ..
Charlotte Cream Station	Charlotte	A. M. Smith Co.			Good ..
Clover Leaf Creamery	Charlotte	W. T. Leonard & Son			Good ..
Genesee County, March:					
Flushing Butter Co.	Flushing	Flushing Butter Co.			Good ..
Mount Morris Cream Station	Mt. Morris	Freeman Dairy Co.			Good ..
Freeman Dairy Co.	Flint	Leonard Freeman			Good ..
Goodrich Dairy Ass'n.	Goodrich	S. H. Pierson			Good ..
Iosco County, March:					
Tawas Butter Co.	Tawas City	C. E. Fahselt			Good ..
Monroe County, March:					
Monroe Creamery	Monroe	Monroe But. & Ch. Co.	1,987,963	63,819	Good ..
LaSalle Skimming Station	LaSalle	Monroe But. & Ch. Co.	1,397,000	42,720	Good ..
Beckhams Creamery	Newport	C. A. Delano	1,819,916	49,000	Good ..
Towars Milk Depot	Newport	Towars W. Co. Cry			Good ..
S. Rockford Creamery	S. Rockford	J. W. Harris	1,409,118	59,112	Good ..
Montmorency County, March:					
Hillman Creamery Co.	Hillman	R. J. Hunt		55,000	Good ..
Sanilac County, March:					
Pt. Huron Creamery Co.	Sandusky	Frank Manary			Good ..
Pt. Huron Creamery	Carsonville	Pt. Huron Cry. Co.			Good ..
Pt. Huron Creamery Co.	Snover	Frank Green			Poor ..
Elmer Creamery Co.	Elmer	Shabona Cry. Co.			Good ..
Snover Creamery	Snover	John Harriman		90,000	Good ..
Shabbona Creamery Co.	Shabbona	R. M. Riley		190,000	Good ..
Pt. Huron Creamery	Decker	Lawrence Conley			Good ..
Towars Wayne Co. Creamery	Brockton	Robert Knoff			Good ..
Shiawassee County, March:					
Bennington Creamery Co.	Bennington	Will Coe		65,000	Good ..
Durand Creamery Co.	Bancroft	R. B. Hutchings			Good ..
Durand	Bancroft	J. M. Martin		5,000	Good ..
Tuscola County, March:					
Halpin Creameries Co.	Vassar	Tom Halpin			Good ..

CREAMERIES.

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Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Washtenaw County, March:					
Ann Arbor Creamery	Ann Arbor	Easton & Allen		101,000	Good ..
Towars Cream Station	Milan	Towars W. Co. Cry.			Good ..
Milan Cream Station	Milan	Easton & Allen			Good ..
Chelsea Cream Station	Chelsea	J. B. Cummings			Fair ..
Towars Cream Station	Chelsea	Towars W. Co. Cry.			Good ..
Wolverine Creamery	Detroit	E. DeMuth		75,000	Good ..
Bay County, April:					
Michigan Creamery Co.	Pineconning	C. C. Aurand			Good ..
Genesee County, April:					
Davison Cream Station	Davison	Durand Creamery Co.			Good ..
Crouse & Parshall Cream Station	Linden	Crouse & Parshall Co.			Good ..
Linden Cream Station	Linden	Durand Cry. Co.			Good ..
Gladwin County, April:					
Vasold Bros.	Gladwin	M. R. Wright			Good ..
Gladwin Creamery Co.	Gladwin	J. R. Smith			Good ..
Gratiot County, April:					
L. Barber Co.	St. Louis	M. J. Ingold			Good ..
Huron County, April:					
Port Huron Creamery Co.	Filion	J. R. Troy			Good ..
Ingham County, April:					
Stockbridge Creamery	Stockbridge	H. J. Kiepert		98,000	Fair ..
Ionia County, April:					
Towars Cream Station	Portland	Towars W. Co. Cry.			Good ..
Portland Cream Station	Portland	Swift & Co.			Fair ..
Lenawee County, April:					
H. H. Driggs Creamery	Palmyra	H. H. Driggs			Fair ..
Blissfield Creamery Co.	Blissfield	Blissfield Cry. Co.		180,000	Good ..
Macomb County, April:					
Utica Cooperative Creamery	Utica	Utica Co-Op. Cry. Co.	3,860,000	287,318	Good ..
Monroe County, April:					
Excelsior Creamery Co.	Ida	W. H. Hoffman		127,000	Good ..
Straasburg Skimming Station	Straasburg	Excelsior Cry. Co.			Good ..
Oakland County, April:					
Milford Cream Depot	Milford	J. B. Rexford			Good ..
C. L. Pearson Milk Depot	Milford	C. L. Pearson			Good ..
Ontonagon County, April:					
Ontonagon Creamery Co.	Ontonagon	C. F. Eichen			Good ..
Saginaw County, April:					
Birch Run Milk Station	Birch Run	Clio Cond. Milk Co.			Good ..
Clio Condensed Milk Weigh Station	Birch Run	L. A. Wright			Fair ..

CREAMERIES.—Continued.

Sample bottles.	Condition of apparatus.										Quality of milk.	Score of butter.
	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skim milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean					Clean			Clean	Good	Good		92
Clean					Clean			Clean	Good	Good		92
Clean												
Clean												
Clean												
Clean												
Clean												
Clean				Clean	Clean		Good	Clean	Good	Good		91
Clean												
Clean												
Clean												
Clean												
Clean	Good			Clean	Clean		Fair	Clean	Good	Good		
Clean												
Clean	Good									Good		
Clean								Clean	Good	Good		
Clean					Clean		Good		Good	Good		
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Good	Good	Good	95
Clean	Clean	Clean	Clean		Clean	Clean	Fair	Clean	Good	Good		
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Fair		Good	Good		
Clean												
Clean	Clean			Clean	Clean				Good	Good	Good	
Good					Good				Good	Good		
	Good				Clean					Good	Very good	
	Good				Good						Fine	

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surround- ings.
St. Clair County, April:					
Port Huron Creamery.....	Port Huron.....	John Ruff.....	2,223,700	1,075,001	Good..
Wayne County, April:					
Medina County Creamery.....	Detroit.....	A. E. Stouffer.....		482,000	Good..
Towars Milk Depot.....	Crooks Crossing.....	Towars W. Co. Cry.....			Good..
Denton Milk Depot.....	Denton.....	Towars W. Co. Cry.....			Good..
Oakland Creamery Co.....	Detroit.....	Max Goldberg.....		580,000	Fair..

CREAMERIES.—Concluded.

Condition of apparatus.											Quality of milk.	Score of butter.
Sample bottles.	Pumps.	Heater.	Separator.	Pasteurizer.	Vats.	Skin milk tank.	Piping.	Churn.	Engine.	Boiler.		
Clean.	Clean	Clean.	Clean.	Clean.	Clean.		Good.	Clean.	Good.	Good.		
Clean.					Clean.		Good.	Clean.	Good.	Good.		91
Clean.				Clean.	Clean.		Good.	Clean.	Good.	Good.		

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Make cheese, pounds.	Style.
Montcalm County, March:					
Butternut Cheese Factory.....	Butternut.....	Campbell Bros.....	1,500,000	150,000	
Shiawassee County, March:					
McLaren's Imperial Ch. Co.....	Bancroft.....	McLaren Imp. Ch. Co....	902,929	90,000	Cheddar.....
Livingston County, April:					
Anderson Cheese Factory.....	Anderson.....	Samuel Boyne.....	1,214,000	122,000	Michigan Soft ..
Monroe County, April:					
D. A. Jenkins Cheese Factory..	Ida.....	D. A. Jenkins.....	961,000	96,222	Michigan Soft
Montcalm County, April:					
Vickeryville Cheese Factory...	Vickeryville.....	M. C. Johnson.....	1,304,966	129,146	Michigan Soft
Saginaw County, April:					
Standard Cheese Co.....	Birch Run Twp..	John Zehender.....	1,750,000	175,000	
Wilson Cheese Factory.....	Birch Run.....	Fred Kent.....			
Tuscola County, April:					
Richville Ch. & Butter Co.	Richville.....	F. C. Renner.....	1,700,000	170,000	Michigan Soft

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Rennet test.	Boiler.		
Achie Beardsley		2, good...	Gang		Poor		12 H. P.	Fair	No.
G. A. MacKensie	Good	3, good...	5, gang	Bernard	Good			Fair	Artificial.
Samuel Boyne	Fair	2, clean...	1, gang		Fair		8 H. P.	Good	
W. S. Wilson	Good	2, clean...	1, gang		Clean	Marshall	10 H. P.	Good	Natural.
M. C. Johnson	Good	2, good...	1, gang		Fair		10 H. P.	Fair	
Earl Davis	Fine	2, fine	1 gang					Fine	
G. V. DeLong	Fair	2, good...	1, gang		Poor		10 H. P.	Fine	
F. C. Renner		2, good...	2, gang	Sturgis			15 H. P.	Fair	

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Demmons, March:											
Jacob Manley.....	88	85	90	90	100	453	Good.....	4.4	1 033	12 53	9 13
Ishpeming, March:											
Jno. Mattson.....	77	75	85	90	85	412	Medium.....				
Chas. Rowe.....	73	75	70	85	85	388	Poor.....				
Jno. R. Stokce.....	81	80	85	90	85	421	Good.....				
Arcll Larson.....	88	90	70	90	85	413	Medium.....	4.2	3.2	13 04	9 84
Thos. Richards.....	90	85	95	95	100	466	Good.....	5.0	32.5	14 125	9 125
Andrew Hansen.....	85	85	85	90	100	445	Good.....	3.8	3.1	12 31	8 51
H. W. Elson.....	85	80	95	90	85	435	Good.....				
Jas. Roberts.....	88	85	85	90	85	433	Good.....	4.0	3.1	12 55	8 55
Arret Flaa.....	90	80	90	90	85	435	Good.....	4.2	3.2	13 04	9 84
Mrs. E. Grund.....	90	85	85	90	85	453	Good.....	4.0	3.1	12 55	8 55
Fred Barrett.....	82	85	85	90	85	427	Good.....				
Laurium, March:											
Fred Mahews.....	85	75	80	90	85	415	Medium.....	3.8	10 33	12 81	9 01
Peter Pepin.....	85	70	80	90	85	410	Medium.....	3.8	10 32	12 56	8 76
Chas. Landstrom.....	95	80	90	90	100	455	Good.....				
Erie Korbi.....	86	70	80	90	85	411	Medium.....	3.4	1 030	11 58	8 18
Erie Nicol.....	86	80	70	90	85	411	Medium.....	4.4	1 032	13 24	8 84
Nick Oyst.....	88	75	70	90	85	408	Medium.....	3.2	1 030	11 34	8 14
Robt. Saari.....	83	80	70	90	80	403	Medium.....	3.6	10 32	12 32	8 72
E. J. Moyle.....	86	75	75	90	80	406	Medium.....	3.6	1 030	13 02	8 34
Henry Leviaka.....	86	75	75	90	85	411	Medium.....	3.6	1 032	12 32	8 72
Christ Trevarrow.....	85	85	75	90	85	420	Medium.....	4.2	1 030	12 54	8 34
Frank Clere.....	90	85	85	90	85	435	Good.....	4.2	1 033	13 29	9 09
Henry Trythal.....	83	70	80	90	85	408	Medium.....	3.2	1 032	14 0	9 01
Jos. Tomesek.....	83	65	75	80	85	388	Poor.....				
Arthur Symons.....	78	60	70	80	75	363	Poor.....				
John Millimaki.....	86	80	75	85	85	411	Medium.....				
Berrien Springs, April:											
Geo. Dean.....	85	90	60	80	85	400	Medium.....				
Gladstone, April:											
Mrs. M. Skelton.....	90	90	90	90	100	460	Good.....				
Alex Williamson.....	90	75	90	90	100	445	Medium.....				
C. E. Stearns.....	83	68	90	90	95	426	Medium.....				
Marquette, April:											
Peter Stuer.....	85	80	80	85	90	420	Medium.....	3.7	3.1	12 19	8 49
F. H. Vandeenboom.....	100	85	95	95	100	475	Good.....	4.1	32.5	13 045	8 945
Max Quandt.....	86	75	80	90	95	426	Medium.....	3.2	21.5	11 715	8 515
C. Jensen.....	90	70	75	90	100	425	Medium.....	3.2	31.5	11 715	8 515
H. Bergh & Sons.....	95	90	90	95	100	470	Good.....	3.4	3.0	11 68	7 60
Trefley Largeness.....	88	90	90	90	100	458	Good.....	2.5	3.0	11 70	8 20
C. E. King.....	95	85	95	95	100	470	Good.....	3.8	3.3	12 81	9 01
S. G. Nelson.....	83	75	80	85	85	408	Medium.....				
Louis Gueff.....	90	80	90	95	100	455	Good.....				
Anton Fanbender.....	82	80	90	90	90	432	Medium.....				
Niles, April:											
Metz Bros.....	90	97	85	80	97	449	Good.....				
Ontonagon, April:											
Zuelke & Wagner.....	95	85	85	90	85	440	Good.....				

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STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



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